



Oak Spring Garden Library



1796 *Pellaea* var. *P. Saururus*

C H A R A vulgaris.

Common Chara.

MONANDRIA Monogynia.

GEN. CHAR. *Cal.* none. *Cor.* none. *Anthera* sessile. *Style* none. *Berry* with many seeds.

SPEC. CHAR. Stem and leaves rough, striated, without prickles. Leaves and leaflets tapering, channelled above, not jointed.

SYN. *Chara vulgaris*. *Linn. Sp. Pl.* 1624. *Huds. Fl. An.* 397. *With. Bot. Arr.* 1015. *Relb. Cant.* 345. *Sibth. Ox.* 1. *Gærtn. Sem. v.* 2. t. 84.

C. vulgaris foetida. *Raii Syn.* 132.

COMMON in muddy stagnant ditches, flowering in July.

The root is presumed to be annual. The herb floats under water, and is harsh to the touch, foetid; very brittle and gritty when dry. Stems branched, striated, rough, but destitute of prickles. Leaves six or eight in a whorl, as long as the joints of the stem, and of the same texture, awl-shaped, narrow, pointed, channelled above; the lower ones simple; the others bearing on their upper sides rows of erect leaflets, four in a cluster, among which the flowers are placed, and these leaflets are by Linnæus and Jussieu described as the calyx. The analogy of *Hippuris*, to which (as Dr. Stokes and the most intelligent systematic writers have observed) this genus is nearly allied, makes us conceive the flower to be really a naked one. The anthera is solitary, sitting at the base of the germen (or sometimes unaccompanied by any germen), red or yellowish, in decay cracking into several angular portions. Germen ovate, yellow or whitish, spirally striated, and crowned with five little leaves. Fruit with a hard shell. Seeds imbedded in a reddish pulp.

It will easily be perceived how naturally this genus comes into *Monandria Monogynia* next to *Hippuris*. As it flowers under water, no wonder if the nature of its anthera and pollen be obscure; but we cannot with Gærtner (see his preface, p. 33.) doubt the part we have described to be the anthera.

It is the opinion of our ingenious friend Mr. Correa, that the impregnation may be performed within the stem by a clandestine communication between the anthera and germen, and also that the five leaves which crown the germen are not (as has been supposed) the stigma, but the tips of a five-leaved calyx closely enfolding that part in a spiral manner. This merits a farther enquiry.



Chara hispida — Prickly Chara

Monandria monogynia

Gen. Ch. Cal. 0. Cor. 0 Anthera sessile
Style none. Berry with many seeds

Spec. Ch. Prickles on the stem bristly,
in clusters.

1970
Chara 0

Chara fluitans - smooth Chara
This is a form is called Monocia. It is

Just a Cal. a. Cal. a. Anthesis of the
Style a. Very much more slender

Spindle. In the same manner as the
Pencil. It is a very slender stem
with a minute flower. It is a

The plant is a C. from the region
of the coast. It is supposed to
be an annual. It is a very slender

The whole plant is quite smooth. It is
filled with apparently very little. It is
very little. It is a very slender

It is a very slender plant. It is a
very slender plant. It is a very slender

It is a very slender plant. It is a
very slender plant. It is a very slender

It is a very slender plant. It is a
very slender plant. It is a very slender

Chara flexilis - Smooth *Chara*
Monandria Monogynia

Length Cal. 0. Cor 0. Anthers sessile
 Style 0. Berry with many seeds

Sp. 1. Smooth transparent without
 Prickles leaves cylindrical blunt
 with a minute point often branched

We have seen this C. from the neighbour-
 hood of Yarmouth. It is supposed to
 be an annual & seems deciduous

The whole herb is quite smooth green &
 pellucid apparently not liable to be
 encrusted like the *vulgaris* & *hispida*
 Stem round branched of an equal thick-
 ness & hollow leaves whorled shaped
 like the branches & often subdivided

They are also like the stem & branches per-
 forated with a few remote contracted joints
 or transverse partitions. The extremities
 are blunt tipped with a little point
 Anthers in the forks of the upper leaves
 solitary curiously cracked or reticulated

10701
Germers in similar situations on a dif-
ferent Plant oval & spirally striated some-
times 2 together

The Rev. Mr. Williams has communicated
to us from some Pools near Shrewsbury
along with this a much larger Variety
which we at first judged a distinct Species
but some Specimens of an intermediate
size being procured proved it to be only
a Variety

Salicornia 1-1





July. 1797 Published by J. Sowerby, London.

SALICORNIA annua.

Annual Samphire or Jointed Glasswort.

MONANDRIA Monogynia.

GEN. CHAR. *Calyx* inflated, undivided. *Petals* none.
Stamina 1 or 2. *Seed* one, enclosed in the calyx.

SPEC. CHAR. Joints compressed, notched; interstices
 obconical. Branches opposite. Spikes cylindrical.

SYN. *Salicornia annua*. *Smith Fl. Brit. in ed. 1. Bast.*
Opusc. v. 2. 105. t. 10.

S. europæa α. *Huds. Fl. An. 1.*

S. herbacea. *Linn. Sp. Pl. 5. With. Bot. Arr. 3. ed. 3.*
v. 2. 4. Relb. Cant. Suppl. 2. 1.

Salicornia. *Raii Syn. 136.*

ON sea shores in places overflowed by the tide, more especially on a muddy soil, plentiful, flowering in August or later; the ground it covers often appears at a distance clothed with a most beautiful turf intersected by rivulets, but on a near approach it proves a dreary inaccessible salt-marsh, where scarcely any thing but this plant will thrive.

Root small, annual. Stem erect, sometimes curved and inclining in the lower part, from whence also, if luxuriant, it generally throws out two large compound branches; the others are mostly simple, opposite, each pair crossing the next, and all pointing upwards. The bark is of a very succulent substance; the woody part strong and tough, though slender. The whole herb is of a jointed appearance externally, smooth, destitute of leaves. Joints more or less compressed, notched or hollowed out on each side, and their interstices thickened upward. Spikes terminating the stem and branches, and like them in figure, but composed of much shorter joints, just above the pointed part of each of which on either side stand about three sessile clustered flowers. Calyx swelling, with an abrupt entire border. Stamen we have always found solitary, with an incumbent anthera. Germen ovate, with a three-cleft sessile stigma. Seed solitary, imbedded in the pulpy calyx.

What we have described is only the first variety of Hudson; the others we hope to illustrate on some future occasion, believing them specifically distinct from this.

This herb is much eaten as a pickle, but has little flavour of its own; in which respect it differs from the highly aromatic true Samphire, *Cribmum maritimum*.





HIPPURIS vulgaris.

Mare's-tail.

MONANDRIA Monogynia.

GEN. CHAR. *Cal.* obsolete, undivided. *Cor.* none.

Stigma simple. Seed 1, inferior.

SPEC. CHAR. Leaves whorled, linear.

SYN. Hippuris vulgaris. *Linn. Sp. Pl.* 6. *Sm. Fl.*

Brit. 4. *Huds.* 2. *With.* 5. *Hull.* 2. *Relb.* 1.

Sibth. 1. *Abbot.* 1. *Curt. Lond. fasc.* 4. *t.* 1.

Dicks. H. Sicc. fasc. 2. 1.

Limnopeuce. Raii Syn. 136.

IN ditches, pools, and the borders of slow streams this plant may be seen in the months of May and June, rising to the height of 10 or 12 inches straight above the surface of the water, and flowering abundantly. Afterwards its whorled perennial roots, and leafy procumbent branches, only are to be found in the mud at the bottom. It is not indeed a very common plant, but grows in several parts of Norfolk and about London, seeming to prefer a gravelly soil.

Stem perfectly simple, round, smooth, reddish, set with numerous whorls of linear entire smooth leaves, about 8 or 10 in each whorl. Flowers sessile, one in the bosom of each leaf, small, and of the simplest structure; for they consist of only an oval germen, crowned with an almost imperceptible margin or calyx, without a corolla, and terminating in a simple, thread-shaped, pointed style, by whose side stands one simple stamen with a two-lobed anthera. When young this anthera is large and reddish, fitting close to the germen, as represented in our plate. The germen becomes a single naked seed.

The herb in its winter state, immersed in the water, with longer, thick-set, pellucid leaves, has been described by Dillenius in Ray's *Synopsis* as a remarkable variety; but it depends entirely on the time of the year, and is therefore not to be deemed a variety.

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Zostera marina. Common Grass. wrack

Monandria Monogynia

Gen. Ch. Spadix linear sheathed by the base
of the leaf bearing the fructification on
1 side in 2 ranks. Cal. & Cor. none. An.
three sessile. Stigmas 2 linear. Caps.
with one seed

Spec. Ch. Capsules sessile





CALLITRICHE aquatica.

Water Star-wort.

MONANDRIA Digynia.

GEN. CHAR. *Cal.* none. *Pet.* 2. *Stigmas* acute.
Seeds 4, compressed, naked, with a winged margin
 on one side. Some monoecious flowers.

SPEC. CHAR.

SYN. *Callitriche aquatica.* *Huds.* 439. *Sibth.* 2. *Sm.*
Fl. Brit. 8. *Hull.* 2.

C. verna. *Linn. Sp. Pl.* 6. *With.* 5. *Relb.* 2.
Abbot. 1.

Stellaria. *Raii Syn.* 289.

β. *S. minor et repens.* *Raii Syn.* 289.
Alfine palustris serpyllifolia. *Ger. em.* 614.

γ. *Callitriche autumnalis.* *Linn. Sp. Pl.* 6. *With.* 6.
Relb. 2. *Abbot.* 2.

Stellaria aquatica, foliis longis tenuissimis. *Raii*
Syn. 290.

FREQUENT and abundant in ditches, lakes, and standing pools, flowering from April to October. It is generally supposed to be annual, floating by means of its thick-set broad upper leaves till the impregnation is accomplished; then each flower sinks, by the elongation of the top of the stem, where new ones are produced, and finally the whole herb subsides to the bottom, takes root there, ripens and sows its seeds. The young plants soon rise to the surface, and appear to be nourished from the water by slender simple roots, from each joint of the slender branching stem, which do not reach the ground till the plant subsides as abovementioned. The earlier leaves are opposite, spatulate, entire, three-nerved; but those produced in autumn, after the herb sinks, are linear, single-nerved, and emarginate, which occasioned the distinction of this one species into two. Flowers axillary, solitary, sessile, small, whitish, with one very long stamen and a bivalve anthera, and a four-lobed germen, with 2 capillary styles. Seeds 4, naked, sharply keeled. Some flowers often want the stamen, others the germen and styles; which led Mr. Hudson to remove this genus to the *Polygamia*, a class which if thus rigidly attended to would swallow up half the rest.

Calicut 3

1811

My dear Sir

I have the honor to acknowledge the receipt of your letter of the 14th inst. and in reply to inform you that the same has been forwarded to the proper authorities for their consideration. I am, Sir, very respectfully,
Your obedient servant,
J. B. [Signature]





LIGUSTRUM vulgare.

*Privet.**DIANDRIA Monogynia.*

GEN. CHAR. *Cor.* 4-cleft. *Berry* superior, of 2 cells, with 2 *seeds* in each.

SPEC. CHAR. Leaves elliptic-lanceolate, obtuse, with a little point.

SYN. *Ligustrum vulgare.* *Linn. Sp. Pl.* 10. *Sm. Fl. Brit.* 12. *Huds.* 3. *With.* 10. *Hull.* 4. *Relb.* 3. *Sibth.* 4. *Abbot.* 2. *Curt. Lond. fasc.* 5. *t.* 1. *Dicks. H. Sicc. fasc.* 13. 2.

Ligustrum. *Raii Syn.* 465.

THE Privet is often met with in hedges and thickets, particularly where the soil is gravelly and rather moist. It also grows in chalky situations; and is very frequently planted for hedges in gardens: for, being in mild winters almost evergreen, and at all times very hardy, and having some resemblance to the foliage of the Myrtle, it has been thought peculiarly eligible for such a purpose. It has also the advantage of bearing the smoke, even of London itself, better than most shrubs.

The whole plant is smooth, bitter, particularly the berries. Leaves opposite, nearly sessile, entire, various in breadth, more or less obtuse, but tipped with a minuté point. Flowers produced early in June, white, with a strong unpleasant smell, and growing in dense terminal panicles. The corolla turns brown before it falls. In some others of the same natural order, the *Jasmineæ*, it assumes a purple hue. Berries purplish black, with 4 seeds enclosed in a mealy pulp.

Legation

Paris

2^a / 12

Epistola - 122



Circae Lutetiana. ²Comm. Enchanters Nights
Diandria Monogynia

Gemell. Cor of 2 Petals. Cal of 2
 leaves sup. Caps. 2 cells. Seeds solitary

Spec. Ch. Stem erect. Leaves ovate
 slightly toothed opaque & downy

Not unfrequent in shady lanes Wood

Orchards & Yards flowering in June &
 July — Root perennial creeping hard
 to be rooted up when it has once established
 itself in a favourable Situation. Stem
 upright straight a foot & 1/2 high round down
 y leafy. Leaves opposite on short stalks
 ovate downy of a darkish dull & not shining
 green their margin wavy edged with short
 teeth — Flowers in 1 or more terminal long Ches-
 ters their partial stalks spreading & at length
 reflex. Cal. leaves ovate reflex. color? Pe-
 tals inversely heart shaped white or reddish
 shorter than the Stamina & Style — Capsule

roundish clothed with little hooked Bristles
by which (separating entire from the stalk) it
sticks to the Coats of Animals — The seeds
nevertheless are often abortive — We know
not how this Plant obtained its Roman
the Name —

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Geranium Alpina - Mountain G. M.

Diandria Monogynia

Genlt - as before -

Spec. Ch - Stem ascending leaves
heart-shaped serrated shining Calyx mem-
branous -

Chiefly confined to mountainous stony
shady places in Westmoreland Cumber-
land Lancashire & some parts of Scotland
flowering in July & Aug^r. It differs
from the common kind in being much
lower & less upright its leaves heart-shaped
deeply & sharply toothed of a bright & very
shining green - the flowers are more ele-
gant & viewed in here their Cal. more col-
& membranous & the clusters generally
more plentiful





L. Tenore del 1800. 1. 1790.

VERONICA spicata.

*Spiked Speedwell.**DIANDRIA Monogynia.*

GENERIC CHAR. *Cor.* inferior, of one petal, four-cleft; lower division narrowest. *Capsule* two-celled.

SPECIF. CHAR. Spike terminal. Leaves opposite, crenated, obtuse. Stem ascending, undivided.

SYN. *Veronica spicata*. *Linn. Sp. Pl.* 14. *Huds. Fl. Ant.* 3. *With. Bot. Arr.* 8. *Relb. Cantab.* 3.

V. spicata recta minor. *Raii Syn.* 279.

VERONICA spicata is one of those plants which wherever they grow are found in abundance, and yet are by no means common in England. It is plentiful on Newmarket Heath, and in that neighbourhood, on a chalky soil, from whence our specimen was taken. When cultivated it becomes much more luxuriant.

This species is not unfrequent abroad in alpine situations; and its bright blue flowers agreeably enliven the barren places where it generally grows.

The orifice of the tube of the corolla is bearded in this *Veronica*, which we do not find remarked in authors. *Flora Danica*, plate 52, represents no such character; but indeed that figure is so incorrect, it is impossible to be certain whether it be *V. spicata*, or one of the species nearly allied to that plant.

Agave 2

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Alton

[Signature]

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Letter.

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Page 10

Notes on

Spring

1

Veronica hybrida - Melch Sprengel

Diandria monogynia

Gen. Ch. Cor infer. of 1 Petal 4 cleft
wheel shaped lower division narrower
Caps. 2 celled

Spec. Ch. Spikes terminal - leaves opposite
elliptical obtuse unequally & bluntly
serrated stem nearly upright

Many have doubted whether this *Veronica*
were really distinct from the *Spicata*.
It must be allowed the difference is
not easy to be defined & yet we believe
them to be distinct. In size & appearance
they differ considerably. V. h. is twice as
large with rougher stem & leaves the
latter are more strongly serrated or notched
of a much broader elliptical form &
of a more glossy green - the bringed
footstalk is common to both kinds - The
stem in that now before us generally produces
3 spikes when luxuriant the rudiments
of the 2 lateral ones appear in our Spec.

men in the bosoms of the upper leaves.

It always grows near the Root is creeping
& perennial & the flowers, appear in
July & August — N. by tride is a very
rare species — Mr Shreve found it in
Rays, Tenn on the side of a Hill in Mor-
gomery shire — Ours was gathered near
Catalpa Wells Hancock in Humphrey
Heard a steep Rock jutting into the Sea
by Mr Bingley

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VERONICA officinalis.

Common Speedwell.

DIANDRIA Monogynia.

GEN. CHAR. *Cor.* inferior, of 1 petal, 4-cleft, wheel-shaped; lower division narrowest. *Caps.* 2-celled.

SPEC. CHAR. Spikes lateral, on stalks. Leaves opposite, rough. Stem procumbent.

SYN. *Veronica officinalis.* *Linn. Sp. Pl.* 14. *Sm. Fl.*

Brit. 16. *Huds.* 4. *With.* 13. *Hull.* 4. *Relb.* 4.

Sibth. 4. *Abbot.* 2. *Curt. Lond. fasc.* 3. t. 1.

Woodv. Suppl. t. 219. *Dicks. H. Sicc. fasc.* 13. 3.

V. mas, supina et vulgarissima. *Raii Syn.* 281.

PLENTIFUL on dry sandy banks, or in woods and heathy places, flowering in May and June.

The roots are fibrous and perennial. Stems a little woody, prostrate, a foot or more in length, set with numerous, opposite, elliptical, blunt or pointed, serrated leaves, which are rough on both sides, like the stem, with short spreading hairs, that appear under a magnifier to be finely jointed. The spikes of flowers stand solitary, on long stalks, from the bosoms of the uppermost leaves, and rise above the termination of the stem; indeed they generally stand erect, making almost a right angle with it as it lies on the ground. Calyx hairy, in 4 almost equal, elliptical, but narrow, segments. Corolla blue, with darker veins. Capsule obcordate, a little hairy, consisting of 2 valves.

This *Veronica* was formerly much recommended to be used instead of the Chinese Tea, particularly in Sweden. Some have contended that it was the very same plant, brought with so much trouble and expence from China. Those who adulterate tea, however, know better than to mix any of this herb with it, whose appearance and flavour would soon betray it to our more refined tastes. It is astringent, with some degree of acrimony, and a rather unpleasant bitter.





Verbena
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Veronica fruticulosa - Flert col. D

Shrubby Spreading

Dianthus monogynus

Growth as before

Spikes corymbose terminal spikes

many flowers leaves elliptic lanceolate

Stems erect Caps. ovate of 4 Nuts

It has been found with *V. saxatilis*

upon Ben Lamer flowering at the same

Season — In strong woody Roots & Stems

branching & intricate at their base it agrees

with it, but the flowering branches are

perfectly upright 6 in or more in height each

bearing a spike rather than a corymbus of a

considerable number of flowers whose cor. is

flert col. never blue & whose stalks scarcely

at all exceed their bracts in length the

leaves also are rather paler much more nume-

rous oblong a little downy at their edges & veins

They are sometimes quite entire sometimes crenate

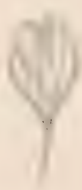
or serrate being liable to vary in that parti-

calyx greatly - the caps & cal agree much
with those of N.S. & the flower stalks are
lengthened out as the fruit ripens. but never
in so great a Degree as in that Species -

In both these kind of Speduncles the flow-
ering branches are merely annual the the
stem below is woody & truly perennial so
that the latter ought never to be esteemed the
naked Crown of the Rock

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Veronica saxatilis — Blue Rock Speedwell

Dicentra monogyna

Genl^l as before

Spunk — Cor terminal of few flowers

Leaves elliptical stems spreading

Caps. oval of 4 valves

Sent from Ben. Lancers — it is present

& even abundantly flowering in July

The roots run deep into the fissures of rocks & the woody branching enlarged stems form small tufts from whence the simple leafy round downy flowering-branches 3 or 4 inch. long spread in every direction

The leaves are opposite small elliptical or oblong blunt always entire at their base & extremity but often serrated in some degree about their middle they are a little thick or fleshy smooth of a dull darkish green turning black when dry — from 3 to 6 large handsome dark blue flowers grow in a short terminal cymes whose stalks are 2 or 3

as long as their corresponding floral leaves, - Cal
in 4 nearly equal blunt downy segments - Ori-
fice of the Cor. elegantly tinged with red - lvs. larger
than the Cal. ovate downy splitting as it ripens
into 4 lanceolate valves so that the fruit dif-
fers much from the heart-shaped form of our
more common Species - This beautiful little
plant has been long known in the more curi-
ous English gardens under the name of *N-*
fruticulosa with which many Botanists (even
Linnaeus Haller & Jacquin originally) have
been accustomed to confound it how unjustly
will appear in our next figure -

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Veronica Alpina — Alpine Speedwell

Diandria Monogynia

Gen. Ch. Cor. infer. of 1 Petal 4 cleft. the lower division narrowest. Caps. 2 celled

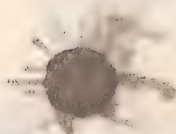
Spec. Ch. Corymbus terminal. leaves opposite ovate smooth slightly serrated. Calyx hairy stem simple ascending

Gathered on the mountains of Badenoch Scotland in 1794 by Mr J. Mackay.

It flowers in July & Aug: & is perennial. It is found only on the highest Alps on boggy spots among trickling Rills. Root of long simple fibres. Stems branched & procumbent at the very base from whence they also throw out roots, then obliquely upright 3 or 4 inches high leafy round smooth or hairy. Leaves opposite on short footstalks, ovate rather obtuse often entire but generally with a few dispersed crenatures, dark green polished smooth

Flowers in a short dense blunt spike or Co-
rymbus afterwards lengthened out the lower
most flower stalks longest. Calyx in 4 ra-
ther unequal hairy & ciliated segments, all
the hairs are finely jointed. Flowers bright blue
with a white tube. Caps. compressed notched hairy
tipped with a permanent style

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Veronica aspyllifolia Smooth Specimen

Dicandria Monogynia

Gen. Ch. — as before —

Spec. Ch. — Clusters terminal. rather
spicate. Leaves, ovate slightly crenate
3 nerved smooth. Caps. universally heart-
shaped shorter than the style.

Common enough in grassy pastures
which are rather moist sometimes in
the shady parts of cultivated ground
flowering in the early part of the Summer.

The Roots are perennial fibrous & the
prostrate stems throw out numerous
fibres by which the plant is much increased
The flowering Branches are mostly erect
bearing a few pair of opposite roundish slightly
ly crenate 3 ribbed leaves on shortish footstalks
Each Branch terminates in a lax branched
Spike or Racemus of small pale blue some-
times flesh col. flowers accompanied by slip.

tial Sepals Bractee - The segments of the
Cal. are equal obovate blunt scarcely at all
pubescent. The Cor. however pale occasion-
ally is always marked with dark blue streaks
Caps. inversely heartshaped deeply divided about
as long as the Cal. Style - In wet places
the whole herb is very smooth & shining rather
fleshy - when it occurs in dry spots it is all
over downy - indeed the flowers stalks & Brac-
tee are frequently liable to this alteration
The Dicksons *N. humifusa* is made
a variety of this

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Veronica Beccabunga Brooklime

Dicandra Monogynia

Gen. Ch. Cor. infer^r of 1 Petals 4 cleft
wheel shaped lower division narrower
Caps. 2 celled

Spec. Ch. Clusters lateral leaves
elliptical flat. stem creeping

Brooklime is every where to be found
in ditches & limpid streams generally
the companion of Water Crocus — with
which it is gathered for medical purposes, &
both together with Secury Grass enter into
that famous Composition called Spring
Tonic supposed to be a powerful Antiscor-
butic — Roots perennial of long simple
fibres — Stems procrembent or floating ta-
king root from their joints branched round
leafy smooth & shining as is every other part
of the herb leaves on short stalks elliptical
blunt slightly serrated of a bright green
somewhat fleshy Clusters axillary opposite
ever longer than the leaves composed of

numerous blue flowers in perfection ab-
out June or July. Bractea linear lan-
ceolate shorter than the partial flower
stalk. Segments of the Cal. ovate acute
shorter than the Cor. Caps. cloven

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VERONICA Anagallis.

Water Speedwell.

DIANDRIA Monogynia.

GEN. CHAR. Cor. inferior, of 1 petal, 4-cleft, wheel-shaped; lower division narrowest. Caps. 2-celled.

SPEC. CHAR. Clusters lateral, opposite. Leaves lanceolate, ferrated. Stem erect.

SYN. Veronica Anagallis. Linn. Sp. Pl. 16. Sm. Fl. Brit. 20. Hudf. 5. With. 15. Hull. 5. Relb. 5. Sibth. 5. Abbot. 3. Curt. Lond. fasc. 5. t. 2. Dickf. H. Sicc. fasc. 13. 4.

V. aquatica longifolia media. Raii Syn. 280.

VERY common in ditches and muddy watery places, flowering in July, and, like all such aquatics as are tenacious of life or easily propagated, it is often found out of the water on the neighbouring banks, merely diminished in luxuriance.

The root is creeping and perennial. Whole herb much agreeing in habit with the Brooklime, V. *Becabunga*, t. 655, except that the stem is erect, and leaves lanceolate, acute, longer than in that species. The clusters are also longer, sharper, composed of more numerous and smaller flowers. Every part of the plant is smooth. Corolla of a pale dull blue, occasionally flesh-coloured, with darker veins. Capsules small, roundish, notched.

No notice has been taken of this plant in a medical or oeconomical view. Its qualities are probably akin to those of Brooklime, to which it is nearly allied in botanical characters, though unquestionably a distinct species.





VERONICA *scutellata*.

Marsh Speedwell.

DIANDRIA Monogynia.

GEN. CHAR. *Cor.* inferior, of 1 petal, 4-cleft, wheel-shaped; lower division narrowest. *Caps.* 2-celled.

SPEC. CHAR. Clusters lateral, alternate; partial flower-stalks divaricated. Leaves linear, slightly indented.

SYN. *Veronica scutellata*. *Linn. Sp. Pl.* 16. *Sm. Fl. Brit.* 21. *Huds.* 5. *With.* 16. *Hull.* 5. *Relb.* 6. *Sibth.* 5. *Abbot.* 3. *Curt. Lond. fasc.* 5. t. 3.

V. aquatica angustifolia minor. *Raii Syn.* 280.

A MUCH less common plant than *V. Anagallis*, being to be met with only in spongy boggy spots, and chiefly where the soil is sandy, flowering in July or August.

It has a slender perennial root, throwing out creeping runners, and a few weak, spreading, simple stems, 6 or 8 inches long, clothed with opposite linear leaves, which are generally but slightly toothed, sometimes ferrated, sometimes on the contrary (as Linnæus describes them) entire. The clusters grow alternately, and consist of a few pale flesh-coloured, purple-veined, rather elegant flowers, whose slender stalks are bent backwards after the corolla fades, and then the ripening capsules, which are brown, and larger than in the *V. Anagallis*, become conspicuous, and have given rise to the name *scutellata*, resembling small shields. If the above description be attended to, these two species can never be confounded.

Although for the most part smooth, the plant now before us has been found in a downy state by the Rev. C. Sutton of Norwich; and indeed I have observed that variety to be common on St. Faith's Newton bogs.



766.



Verbena officinalis L.

VERONICA montana.

*Mountain Speedwell.**DIANDRIA Monogynia.*

GEN. CHAR. Cor. inferior, of 1 petal, 4-cleft, wheel-shaped; lower division narrowest. Caps. 2-celled.

SPEC. CHAR. Clusters lateral, elongated, slender, of few flowers. Leaves ovate, serrated, on foot-stalks. Stem hairy in every direction.

SYN. Veronica montana. Linn. Sp. Pl. 17. Sm. Fl. Brit. 21. Hudf. 6. With. 16. Hull. 5. Relb. 7. Sibth. 6. Abbot. 4. Curt. Lond. fasc. 4. t. 2.

V. chamædryoides, foliis pediculis oblongis infidentibus. Raii Syn. 281.

MR. SOWERBY gathered this specimen in Charlton wood, where Sherard is first recorded to have found the *V. montana*, and where it still grows copiously. Nor is it very rare in other parts of England, in shady and rather moist woods, particularly on a chalky soil, flowering in May and June. The root is perennial.

Many botanists have thought this merely a variety of *V. Chamædrys*, see our t. 623; but such an idea can have arisen, as Mr. Curtis observes, only from a very superficial inquiry. In the first place, the hairiness of the stem being general, and not confined to two longitudinal lines, is its very sufficient distinction; to this may be added the stalked leaves, which are thinner and more shining than those of the *Chamædrys*; the corolla is much smaller and less beautiful; lastly, the capsule is thrice as large as in that species, more compressed and dilated, and formed as it were of two orbicular portions joined together, instead of being heart-shaped.

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Veronica Chamædrys - Germanier Speedwell

Diandria Monogynia

Growth as before

Sp. Ch. Clusters lateral leaves ovate
sepals rugged deeply serrated. Stem
marked with 2 longitudinal hairy
Lines —

In the month of May every hedge bot-
tom & grassy bank is adorned with the
beautiful flowers of this Plant. At night
or under the influence of moisture the Cor-
olla but in any bright weather appars
fully expanded in all its brilliancy
& tho' each flower is short lived there is a
copious succession —





VERONICA agrestis.

Procumbent Speedwell.

DIANDRIA Monogynia.

GEN. CHAR. Cor. inferior, of 1 petal, 4-cleft, wheel-shaped; lower division narrowest. Caps. 2-celled.

SPEC. CHAR. Flowers solitary. Leaves ovate, deeply serrated, shorter than the flower-stalks. Stems procumbent. Seeds cupped.

SYN. Veronica agrestis. Linn. Sp. Pl. 18. Sm. Fl. Brit. 23. Hudf. 7. With. 17. Hull. 5. Relb. 7. Sibth. 6. Abbot. 4. Curt. Lond. fasc. 1. t. 1.

V. floribus singularibus, in oblongis pediculis, chamædryfolia. Raii Syn. 279.

NO weed can be more general than this in all cultivated fields and gardens, where, though an annual, it is always to be found in some stage or other, and in flower from the beginning of spring till the end of autumn.

The root is small and fibrous. Stems several, procumbent, long, leafy, round, hairy, not branched except at their base. Leaves scattered, on short foot-stalks, ovate, inclining to heart-shaped, deeply serrated, a little rough and hairy. Flowers on simple solitary axillary stalks, which exceed in length their corresponding leaves, and after flowering are curved downwards. Segments of the calyx ovato-lanceolate, ciliated, generally quite entire, now and then irregularly toothed. Corolla small, bright blue. Capsule of two round swelling lobes, rough. Seeds about 6 in each cell, externally rugged, cupped or hollowed out on the other side, in which hollow the little stalk is fixed that attaches them to the seed-vessel. Their whole structure is curious, and totally different from that of *V. arvensis*.





VERONICA arvensis.

*Wall Speedwell.**DIANDRIA Monogynia.*

GEN. CHAR. *Cor.* inferior, of one petal, four-cleft, wheel-shaped; lower division narrowest. *Capsule* two-celled.

SPEC. CHAR. Flowers solitary. Leaves ovate, deeply ferrated; the floral ones lanceolate, longer than the flower-stalk. Stem erect.

SYN. *Veronica arvensis.* *Linn. Sp. Pl.* 18. *Sm. Fl. Brit.* 24. *Huds.* 6. *With.* 12. *Hull.* 5. *Relb.* 8. *Sibth.* 6. *Abbot.* 5. *Curt. Lond. fasc.* 2. 1. 2.

V. flosculis singularibus, cauliculis adhærentibus.
Raii Syn. 279.

FREQUENT in dry gravelly fields, waste sandy places, and on the tops of walls, flowering in May.

Root annual, fibrous. Whole herb generally of a paler colour than the most common species of *Veronica*, *agrestis* and *hederifolia*, nor is it so apt to turn black in drying. The stem is about 6 inches high, erect, generally branched at the base. Leaves opposite, ovate, hairy, strongly ferrated; the lower ones chiefly on short foot-stalks; the upper ones, from whose bosoms the flowers are produced, are lanceolate, narrow and entire, so as more properly to be called *bractææ*; and hence Dr. Withering has lately removed this and *V. verna* to the spiked section of the genus, to which however they are not naturally akin, nor ought they to be separated from *triphyllus* and other annual species. The flowers of *V. arvensis* stand on short stalks, and are small, pale-blue, with 4 lanceolate, entire, rather unequal, segments to their calyx. Capsule inversely heartshaped, compressed, ciliated. Seeds several, elliptical, flat, with a little dimple in the middle of one side. The form of the seeds and of the calyx-leaves will be found to afford the most beautiful and certain marks of specific distinction, particularly of the annual species, in this genus.

25



2



VERONICA hederifolia.

Ivy-leaved Speedwell.

DIANDRIA Monogynia.

GEN. CHAR. Cor. inferior, of 1 petal, 4-cleft, wheel-shaped; lower division narrowest. Caps. 2-celled.

SPEC. CHAR. Flowers solitary. Leaves heart-shaped, flat, five-lobed. Segments of the calyx heart-shaped. Seeds cupped.

SYN. Veronica hederifolia. Linn. Sp. Pl. 19. Sm. Fl. Brit. 24. Hudf. 7. With. 17. Hull. 5. Relb. 8. Sibth. 7. Abbot. 5. Curt. Lond. fasc. 2. t. 1.

V. flosculis singularibus, Hederulæ folio, Morfus gallinæ minor dicta. Raii Syn. 280.

WHAT has been said in the last page respecting the place of growth and the duration of *V. agrestis* is exactly applicable to the present plant, its pretty constant companion. Both also agree in the hollow or cup-like form of their seeds, in which they totally differ from other British *Veronicæ*.

Root small, fibrous. Stems prostrate, unbranched. Leaves on foot-stalks various in length, roundish, five-lobed when perfect, the central lobe being much the largest. Flower-stalks spreading, longer than the leaves. Calyx-lobes heart-shaped, acute, fringed. Corolla pale blue. Capsule swelling, with 2 large rugged concave seeds in each cell.

The leaves are sometimes more deeply cut than in our specimen, in which state young botanists often take this plant for *V. triphyllos*, see our 1st vol. t. 26. If the seeds be attended to no mistake can happen.

[Faint, illegible text, likely bleed-through from the reverse side]



J. Torr. by del. Aug. A. 1791.

VERONICA triphyllos.

Trifid Speedwell.

DIANDRIA Monogynia.

GEN. CHAR. *Cor.* inferior, of one petal, four-cleft,
lower division narrowest. *Capsule* two-celled.

SPEC. CHAR. Flowers solitary. Leaves with deeply fin-
gered divisions. Flower-stalks longer than the calyx.

SYN. Veronica triphyllos. *Linn. Sp. Pl.* 19. *Huds. Fl.*
An. 7. *With. Bot. Arr.* 15.

Veronica flosculis singularibus, foliis laciniatis, erecta.
Raii Syn. 280.

FOR the wild specimens here figured of this plant and the preceding, we are obliged to Sir Thomas Cullum, Bart. who gathered them near Bury, and kindly communicated them in a recent state, along with *Holosteum umbellatum*, and several other rare plants, all which will in due time appear in this work. *V. triphyllos* is always much larger, and more diffuse, than the *verna*, its leaves more deeply divided, and their segments more or less obovate: neither is it quite so rare a plant, having been found in sandy fields in various parts of Norfolk and Suffolk. It flowers early, and, like the *verna*, varies much in size, according to the share of nourishment it meets with. Nothing is more common than for young English botanists, in gathering *Veronica hederifolia* with leaves more than usually deeply cut, to think they have found *V. triphyllos*.



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 Spec. Cray
 Syn. Cray
 W. Cray
 A. Cray

FIRST
 Gen. Cray
 Spec. Cray
 Syn. Cray
 W. Cray
 A. Cray

VERONICA verna.

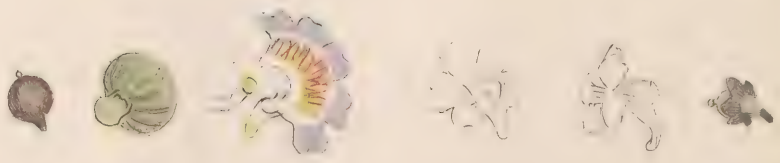
Vernal Speedwell.

DIANDRIA Monogynia.

- GEN. CHAR. *Cor.* inferior, of one petal, four-cleft;
lower division narrowest. *Capsule* two-celled.
- SPEC. CHAR. Flowers solitary. Leaves with fingered
divisions, longer than the flower stalks, which are
shorter than the calyx.
- SYN. *Veronica verna.* *Linn. Sp. Pl.* 19. *Huds. Fl. An.* 8.
With. Bot. Arr. 15. *Rose's Bot. (Appendix)* 444.
t. 2. f. 1.
-

FIRST found by the late Sir John Cullum, Bart. in dry
sandy fields about Bury in Suffolk, and not yet discovered in
any other part of England that we know of. It is an annual,
flowering in April and May. From its near resemblance at first
sight, especially when luxuriant, to *Veronica arvensis*, it may
perhaps have been overlooked for that plant. They are how-
ever perfectly distinct.

If Morison's figure, sect. 3. t. 24. f. 21. be intended
for *Veronica verna*, as Dr. Stokes suspects, it is a very inac-
curate representation of the plant.



PINGUICULA lusitanica.

*Pale Butter-wort.**DIANDRIA Monogynia.*

GEN. CHAR. *Cor.* ringent, spurred. *Cal.* two-lipped, with five segments. *Capsule* of one cell.

SPEC. CHAR. Nectary blunt, shorter than the petal. Stalk hairy. *Capsule* globose.

SYN. *Pinguicula lusitanica.* Linn. *Sp. Pl.* 25. *Huds. Fl. An. ed.* 1. 7.

P. villosa. *Huds. Fl. An. ed.* 2. 8. *With. Bot. Arr.*

17. *Lightf. Fl. Scot.* 77. t. 6.

P. flore minore carneo. *Raii Syn.* * 281.

DR. PULTENEY of Blandford Dorsetshire was so obliging as to send us living plants of this very interesting species in the end of June last, gathered on bogs in his neighbourhood, and we embrace with pleasure the opportunity of clearing up that obscurity in which it has been enveloped.

The root is perennial. Leaves like those of other species of this genus, but rather more delicate and pellucid, reticulated with red veins, and much involute in the margin. Stalks hairy, especially in their lower part, with short spreading glandular hairs tipped with a viscid fluid. Flowers a little nodding. Calyx scarcely two-lipped, but almost equally 5-cleft. Tube of the corolla nearly cylindrical, yellow streaked with red; limb in 5 equal obcordate spreading segments, of a pale lilac; orifice hairy; spur inflated at the base, then contracted, terminating in a very blunt conical figure, and when dried (the only state in which Linnæus saw it) much thicker at the end than at the middle, streaked with red. Stamina flattish. Germen hairy. Stigma blunt, excavated on the upper side. *Capsule* perfectly globular, crowned with the withered stigma.

That this is the real *P. lusitanica* we learn from Portuguese specimens compared with those of Grisley, after which probably (seen in some herbarium) Linnæus described it, for he had it not in his own. That it is *P. villosa* of Lightfoot appears from a specimen from Skye, given to Dr. Smith by the Rev. Mr. Stuart, as well as from the figure in *Fl. Scot.* Neither can there be any doubt of its being what Ray and Hudson intended.

The better to distinguish this species from others we may remark that *P. vulgaris* has an unequal limb, sharp slender spur, and oval capsule: *P. alpina* a very short conical spur, and a long rostrated capsule: *P. villosa* a slender sharp spur, and obcordate compressed capsule, with short round leaves. Its hairy stalk and regular limb agree nearly with *P. lusitanica*, but the *villosa* is the smaller in all its parts.

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Penicillium 3





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PINGUICULA vulgaris.

Common Butter-wort.

DIANDRIA Monogynia.

GEN. CHAR. *Corolla* ringent, spurred. *Calyx* two-lipped, with five segments. *Capsule* of one cell.

SPEC. CHAR. Spur cylindrical, and as long as the petal.

SYN. *Pinguicula vulgaris*. *Linn. Sp. Pl.* 25. *Huds.*

Fl. An. 8. *With. Bot. Arr.* 16. *Relb. Cant.* 8.

P. Gefneri. *Raii Syn.* * 281.

ON bogs in the northern counties abundantly, also in Norfolk and other parts of England more sparingly. It is perennial, and flowers in the early part of summer. We are obliged for this specimen to Mr. E. Robson of Darlington, a very assiduous and accurate botanist.

The leaves are remarkably glutinous on their upper side, and afford a good example of an involuted margin. The structure of the stigma, and its close application to the stamina in this genus, are very remarkable.

Butterwort is accused of causing the rot in sheep; but Dr. Withering assures us no cattle whatever will feed upon it.

“The husbandmen’s wives of Yorkshire do use to anoint
“the dugs of their kine with the fat and oilous juyce of the
“herbe butterwort, when they are bitten with any venomous
“worme, or chapped, rifted and hurt by any other meanes”—
as Master Gerarde testifieth.



Ranunculus repens L.

UTRICULARIA vulgaris.

*Greater Hooded-Milfoil.**DIANDRIA Monogynia.*

GEN. CHAR. *Cal.* of two equal leaves. *Cor.* ringent, spurred. *Capsule* of one cell.

SPEC. CHAR. Nectary conical. Stalk with few flowers.

SYN. *Utricularia vulgaris.* *Linn. Sp. Pl.* 26. *Huds. Fl. An.* 8. *With. Bot. Arr.* 18. *Relb. Cant.* 9. *Sibth. Oxen.* 7.

Lentibularia. *Raii Syn.** 286.

EVEN this species of *Utricularia* is not extremely common, though more so than the following. It is perfectly an aquatic; nor can it possibly grow out of the water, occurring only in stagnant ditches and pools, and flowering after Midsummer.

The fibrous floating roots, slightly attached to the mud, are supposed to be perennial. The stem likewise floats horizontally under water, alternately divided into capillary branches, with bristly leaves bearing little compressed curved bladders, open and bearded at the tip, containing a bubble of air, and a drop of watery fluid, in which, when highly magnified, Dr. Withering observed a quantity of extremely minute solid particles. Aquatic insects frequently take up their lodging in these bladders. The stalk only rises erect a few inches above the water, and is rendered conspicuous by its spike of large handsome alternate flowers, whose flower-stalks and calyx are reddish or purple, the corolla of one irregular labiate petal, the spur conical and recurved, the mouth closed, palate prominent, of an orange colour. Stamina thick and short. Germen superior, style short; stigma concave and bearded. See Dr. Withering's excellent description.

We cannot positively determine to which of the varieties mentioned by Linnæus (*Fl. Suec.* & *Sp. Pl.*) our plant belongs; nor can we learn that any other form of *U. vulgaris* than that here represented has been found in Britain.

Memorandum 4

RECEIVED

1861

[Faint, illegible handwritten text, possibly a ledger or account book entry]



Jun. 733 Bellamysia p. L.

UTRICULARIA minor.

Lesser Hooded-Milfoil.

DIANDRIA Monogynia.

GEN. CHAR. *Cal.* of two equal leaves. *Cor.* ringent,
spurred. *Capsule* of one cell.

SPEC. CHAR. Nectary keel-shaped.

SYN. *Utricularia minor.* *Linn. Sp. Pl.* 26. *Huds. Fl.*

An. 9. *With. Bot. Arr.* 19. *Relb. Cant.* 9.

Lentibularia minor. *Raii Syn.* * 286.

BY far less frequent than the last. The Rev. Mr. Hemsted sent it from the neighbourhood of Fordham Moor Cambridge-shire. It also grows on some moors to the north of Norwich, intermixed with *U. vulgaris*, and flowering at the same time. The two species also agree in habit and structure, the *minor* being only about half the size of the other, with paler, and generally fewer, flowers. The essential difference consists in the species now before us having a short blunt nectary, which projects so little, compared with the other, that Linnæus calls it only carinated, not conical. The palate too is not so prominent as to close the orifice of the corolla.

Linnæus's description in *Fl. Suec.* is worthy of him, but we rather wonder at his calling the corolla *dipetalous*, however deeply divided.



Salvia officinalis L.

Gen. C. A.
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Sacc. C. A.
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Syn. Sal.
H.
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SALVIA verbenaca.

Wild English Clary.

DIANDRIA Monogynia.

GEN. CHAR. *Cor.* irregular. *Filaments* attached laterally to a little footstalk.

SPEC. CHAR. Leaves serrated, smoothish. Corolla much more contracted than the calyx.

SYN. *Salvia verbenaca.* *Linn. Sp. Pl.* 35. *Huds. Fl.* An. 10. *With. Bot. Arr.* 22. *Relb. Cant.* 10.

Horminum sylvestre Lavandulæ flore. Raii Syn.

237.

COMMON on chalky and gravelly soils, as about Charlton. The whole plant is of a deeper green than *Salvia pratensis*, and the flowers of a darker blueish purple; they are also much smaller, and by far less conspicuous.

The root is perennial, strong and woody. Radical leaves on footstalks, sinuated and crenate; those on the stem sessile, sharply and grossly serrated. Bractææ entire, heart-shaped, acute, larger in proportion to the flowers than in *S. pratensis*. The flowers appear in June, and may be found even till October. Our figure expresses their structure.

The herb and flowers prove very aromatic upon being rubbed. The seeds are black and smooth, producing a great quantity of soft tasteless mucilage when moistened, whence they become serviceable for removing extraneous matter from the eyes. If put under the eyelid for a few moments, the tears dissolve their mucilage, which envelops any sand or dust that may be in the way, and brings it out safely. Gerarde has noticed this.



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SALVIA pratensis.

Meadow Clary.

DIANDRIA Monogynia.

GEN. CHAR. Cor. irregular. Filaments attached laterally to a little footstalk.

SPEC. CHAR. Leaves oblong, heart-shaped at the base, crenated; the uppermost embracing the stem. Bractææ minute. Summit of the corolla glutinous.

SYN. Salvia pratensis. Linn. Sp. Pl. 35. Hudf. Fl. An. 10. Witb. Bot. Arr. 21.

Sclarea pratensis foliis ferratis. Raii Syn. 237.

THE meadow clary is one of our more specious, as well as of our most scarce plants of British growth. Mr. Jacob Rayer gathered this specimen near Cobham in Kent, the seat of Lord Darnley. Dr. Stokes mentions it as common in Surry and Sussex; we have had it too from Oxfordshire. It flowers in June, and cannot easily be overlooked.

Root perennial. Leaves oblong, nearly smooth, irregularly crenated, wrinkled and veiny; the radical, and lower stem-leaves, on longish footstalks, and sometimes sinuated; the uppermost sessile, embracing the stem, sharply pointed. Long whorled spikes of large blue flowers (6 of them in a whorl) terminate the stem and branches, with a pair of very small heart-shaped, acuminate bractææ to each whorl, whence Linnaeus defines it *verticillis subnudis*, the bractææ being so much less conspicuous than in most other species. The flower-stalks and calyx, as well as the apex of the corolla, are hairy and viscid. This is not a very aromatic species.

Salva 5

Declaracion

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
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Valeriana dioica Small Root Valerian
Triandria Monogynia

Length Cal. 0. Cor of 1 Petal super
 gibbous on side at the base - Seed 1 -

Sp. Ch. Flowers dioecious with
 3 Stamens Radial leaves ovate
 those on the stem pinnate

Frequent in moist boggy meadows
 flowering in June & the roots are per-
 ennial - Root creeping stem 6 or 8 in
 high erect simple striated - Radial
 leaves ovate on footstalks undivided
 those on the stem opposite pinnate or ra-
 ther pinnatifid in a lyrate manner
 all of them smooth & generally entire
 but this last circumstance can by no means
 be considered as part of their specific char.
 The Linnæus has admitted it for even in
 his own specimens the leaves are decidedly
 serrated - A forked or more panicled termi-
 nates the stem - the flowers are of a pale

black colour ^{male} ~~female~~ on a dark female and
the other for altho some flowers are frequently
found with stamens & pistilla both organs
are scarce ever perfected in the same indi-
vidual - The male plant is always
smaller & less robust having a more trans-
ient function to perform than the other,
The seed is naked below the flower furrow
when ripe with a radiated feathery crown

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Valeriana officinalis - St. wild Valerian

Isandria monogyria

Gen. Ch. Cal. c. cor. of 1 Petal superior
gibbous on 1 side at the base. Seed 1

Spec. Ch. Stamens 3. leaves all pinnate
leaflets lanceolate nearly uniform

This cannot have escaped the most superficial Botanist about moist hedges & the margins of Rivers — it is perennial & flowers some time in June — the feathery winged seeds are scattered in July

The Root is aromatic but with a very disagreeable flavour — that of the Mountain variety which grows in thickets is of a more humble growth & preferred for medicinal purposes being more pungent & aromatic — It is celebrated not unjustly in nervous diseases particularly hysterical & epileptic Complaints

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Valeriana locusta. Corn Sallet or Hamble
~~Settles~~

Triandria, monogynia

Genlth Cal. 0. Cor of 1 Petal super?
 Lobes on 1 side at the Base. Seed 1
 Spelth Stamina 3. Stem forked
 leaves-linear tongue-shaped blunt

In corn fields & all cultivated ground
 this is a common well known weed growing
 from April to June — At an earlier
 period its leaves are eaten as a Sallet

The root is small & annual. Herb of a
 pale greyish green generally a little
 downy.

The varieties mentioned by Withering are
 certainly not specifically different



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May 12

Aug 17

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Valley

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Crocus nudiflorus. Naked flowering Crocus
Triandria Monogynia

Gen. Ch. Cor. in 6 divisions regular. Stigma convoluted

Spec. Ch. Sheath of 1 leaf radical. Tube of the Corolla very long leafless. Stigma of three deeply laciniate segments enclosed within the flower

This Crocus grows in the greatest profusion between Nottingham Castle & the River Trent in meadows whose soil is naturally sandy but from the overflowing of the River is converted into nearly equal parts of Sand & Clay. There this plant enamels several Acres of ground every Autumn & has been mistaken by Strangers for a spring of Water. The flowers perfectly destitute of leaves are in perfection early in October & fade before the End of the month

The leaves do not begin to appear till some time
in Decr. & are more erect than those of the other
Species their Margin scarcely revolute colour
paler & their Ends not decayed - The Style
is enclosed within the Flower as in *C. nemoralis*
but differs widely from that & the *Autumnalis*
having its segments deeply divided into 7 to 12
generally ~~of~~ narrow linear lobes. The seeds
in chary - These Characters & the time of flower
are found constant in Plants cultivated for
number of years -

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C. verna

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CROCUS vernus.

Spring Crocus.

TRIANDRIA Monogynia.

GEN. CHAR. Cor. in 6 divisions, regular. Stigmas convoluted.

SPEC. CHAR. Sheath of one leaf, radical. Tube of the corolla very long. Stigma in three short wedge-shaped lobes, enclosed within the flower.

SYN. Crocus vernus. Mart. Fl. Rust. t. 59.

C. fativus β. Linn. Sp. Pl. 50. Hudf. Fl. An. 13. With. Bot. Arr. 38.

C. vernalis cæruleus. Deering Nottingh. 60.

THIS wild specimen of the Spring, or Garden, Crocus was gathered by Mrs. Sherbrooke of Arnold near Nottingham, March 15th last, in the same meadows where Dr. Deering observed it 60 or 70 years ago, and which are still rendered quite purple by these flowers every spring; so that this species at least appears to have a better right to be reckoned an English plant than many others universally acknowledged, as the Rev. Mr. Wood, F. L. S. to whom we are indebted for the communication, remarks. Professor Martyn mentions having seen it at Battersea, near the mill, in considerable quantity, above 40 years ago.

It differs from the Saffron Crocus in having broader leaves, with flatter or less revolute edges; yet that difference is not so constant as the great one of the stigmas, which in the plant before us are comparatively very little divided, the segments wedge-shaped, much and unequally notched, erect (not hanging out of the flower), of a paler colour, and quite destitute of the smell and cordial qualities of Saffron.—Their times of flowering are also widely different, this being one of the earliest spring plants, as every body knows by the numerous purple, yellow, and white varieties growing in every garden; the other is quite an autumnal flower, and these differences are permanent under every mode of culture hitherto tried.

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Crocus sativus L.

C R O C U S autumnalis.

Saffron, or Autumnal Crocus.

TRIANDRIA Monogynia.

GEN. CHAR. Cor. in 6 divisions, regular. Stigmas convoluted.

SPEC. CHAR. Sheath of one leaf, radical. Tube of the corolla very long. Stigma in three deep linear divisions hanging out of the flower.

SYN. *Crocus sativus* α. *Linn. Sp. Pl.* 50. *Huds. Fl. An.* 13. *With. Bot. Arr.* 37. *Relh. Cant.* 15. *Woodv. Med. Bot. t.* 176.

C. officinalis. *Mart. Fl. Rust. t.* 58.

Crocus. *Raii Syn.* 374. *Ger. em.* 151.

SAFFRON has very little right, as Professor Martyn observes, to a place in the British Flora, having been introduced from the south of Europe for culture as a medicinal plant. We should scarcely indeed have followed the example of our predecessors in retaining it, were it not for the authority of the Rev. Mr. Wood, who found it about Halifax, and of Mr. Whately, who observed it near Derby, according to Dr. Withering. Our specimen came from Saffron Walden, the only place in which this article of the materia medica is now produced for sale in England. See a full account of it in the *Flora Rustica* and *Medical Botany*.

Root a depressed bulb. Leaves all radical, invested with membranous sheaths, from which they emerge but little before the flowers fade; they are linear, dark green above, with a white longitudinal furrow; pale beneath, with a very prominent but flattened mid rib; their margins slightly revolute. Flowers sessile at the root, though with so long a cylindrical tube as to seem pedunculated; the limb in 6 elliptical, concave, rich-purple, regular segments. Stamina shorter than the corolla, erect. Style about equal to the corolla, but hanging out on one side between 2 of its segments, being deeply cloven into three deep-orange linear stigmas (which are the Saffron itself), their edges rolled in, their summits notched.—It flowers in August or September. A kind of tap-root frequently grows from the bulb, which is considered by the cultivators as a disease.

[Faint handwritten notes, possibly bleed-through from the reverse side.]

Iris Pseud-acorus - Yellow Water Iris

Fredericia monogyna

Gen. Ch. Petals 6 superior alternately reflexed - Stymas like petals

Spec. Ch. Cor. beardless inner Petals less than the Stymas leaves sword shaped

Very common in ditches, Pools & the margins of Quirs flowering in July?

Root perennial fleshy horizontal depressed of a reddish brown throwing out numerous long fibres from its under side stem upright roundish smooth leafy bearing from 3 to 6 flowers & a little taller than the leaves which are also erect about 3 feet high sword shaped pointed ribbed enclosing to a glaucous blue. Flowers of a full lemon color the larger Petals elegantly pencilled with a full Purple - their termination roundish broad dependant - the inner Petals are erect narrow blunt much shorter than the outer fringed & cloven - petal like Stymas which constitute the singular Character

of this genus & under which the Anthers
are sheltered — Ray mentions a variety
which is not very uncommon with pale
flowers & another with white ones the last
we have never seen —

A Slice of the fresh Root which is a
coarse & violently astringent being held betw
the teeth will very quickly remove some kind
of tooth ache —

Iris 5





Iris fetidissima Stinking Iris

Andropogon monogynus

Genlth as before

Spec. Ch. Cor. broadly inner Petals
spreading Stem with large leaves
sword shaped

In groves thickets & under hedges but
rarely - The flowers appear in May
& the seeds in the open Capsules make
a conspicuous figure in Autumn

Root perennial fleshy forming thick tufts
Stems near 2 feet high smooth leafy round-
ish with 1 angle or edge & bearing several
flowers - leaves erect sword shaped deep
green Flowers springing out of large sheathing
Bractea inodorous of a dull pale purple
but from their finely pencilled veins not
unworthy of a close examination - The inner
petals spread nearly as much as the outer
ones & are about as large as the stigmas
which are cloven but scarcely fringed

The Capsules are large & inflated green exter-
nally white within containing several

lobular polished deep orange cold seeds.

The leaves when bruised have a very peculiar offensive smell—yet this having some resemblance to the effluvia of roast beef.

The name of Roast beef Plant has been applied as a title of honour to this Iris—



July
1907
H. J. ...
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Scirpus mariscus - Pretty Bog Rush

Scirpus monogynus

Grass ———

Grass Stem round - leaves pretty
at the margin & keel ———

Grass of Boggy Moors in several
parts of England but not common ———

It is said to be peculiarly abundant about

Cambridge it is present & flowers through^{out}

July & Aug^r ———



SCHÆNUS compressus.

Compressed Bog-rush.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, clustered; the outer ones barren. *Cor.* none. *Seed* 1, roundish, among the glumes.

SPEC. CHAR. Stem roundish, naked. Spike two-ranked, shorter than the bractea, which is simple. Spikelets many-flowered. Leaves flat.

SYN. *Schœnus compressus.* *Linn. Sp. Pl.* 65. *Sm. Fl. Brit.* 44. *Huds.* 15. *With.* 80. *Hull.* 12. *Relb.* 17. *Dicks. H. Sicc. fasc.* 3. 2.

Gramen cyperoides, spicâ simplici compressâ distichâ. *Raii Syn.* 425.

A NATIVE of turfy bogs, and spongy meadows, which should seem to be less rare than it has generally been supposed; in Norfolk at least it is not at all uncommon, flowering in July, nor are its bright-chestnut polished spikes easily overlooked, if the surrounding herbage does not conceal them from our view.

The root is a little creeping. Stems simple, scarcely a foot high, upright, roundish, smooth, naked except at the very base. Leaves 3 or 4 investing the bottom of the stem, sheathing, alternate, flat, with a projecting nerve, of a grass green, smooth except at the margin. Spike solitary, terminal, composed of several spikelets alternately disposed in 2 ranks, the lower ones a little remote, and the lowest subtended by a bractea, which commonly exceeds the general spike in length, and is triangular and rough at the end. The outer glumes are barren; each of the rest serves as a calyx to each floret. Stamina 3. Style simple, with a downy cloven stigma. Seed invested at the base with several rough bristles, showing a near approach to the genus *Eriophorum*.

This is certainly what Linnæus originally meant for his *Carex uliginosa*, he having neglected to examine the fructification, trusting probably to the resemblance of the plant to *C. arenaria*, &c.



Handwritten text, likely bleed-through from the reverse side of the page.

Sclerurus reifus - Brown Bay Rush

Tricandrew monogynia

Gen Ch as before

Spur Ch Stem round naked Spike
2 ranked. Longer than the solitary blunders
Involucrum Spikellets of few flowers
Leaves channelled

This *S.* unknown to Linnaeus has been
found in Moriches near the Coast of several
ports of Scotland & the Hebrides - It is present
flowering in July

Schenck



Handwritten text in cursive script, likely a list of botanical specimens or descriptions, visible along the right edge of the page.

Schemus albus. White headed Bogwort

Trandrium monogynum

Genl. Glumes chaffy clustered the
outer ones barren Cor 0. Seed 1 roundish
among the glumes

Spec. Ch. Stem triangular leafy flowers
clustered leaves bristle shaped. Seed with
10 Bristles at the base

This pretty T. is found on turf Boggs. but
is rare except in mountainous countries
It flowers in July & Aug. & is perennial



7. P. ... Aug 1795

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new ones
large yellow
flame with
brandy yellow
and pale

SCIRPUS palustris.

Marsh Club-rush.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, imbricated every way, all fertile. *Cor.* none. *Seed* one, beardless.

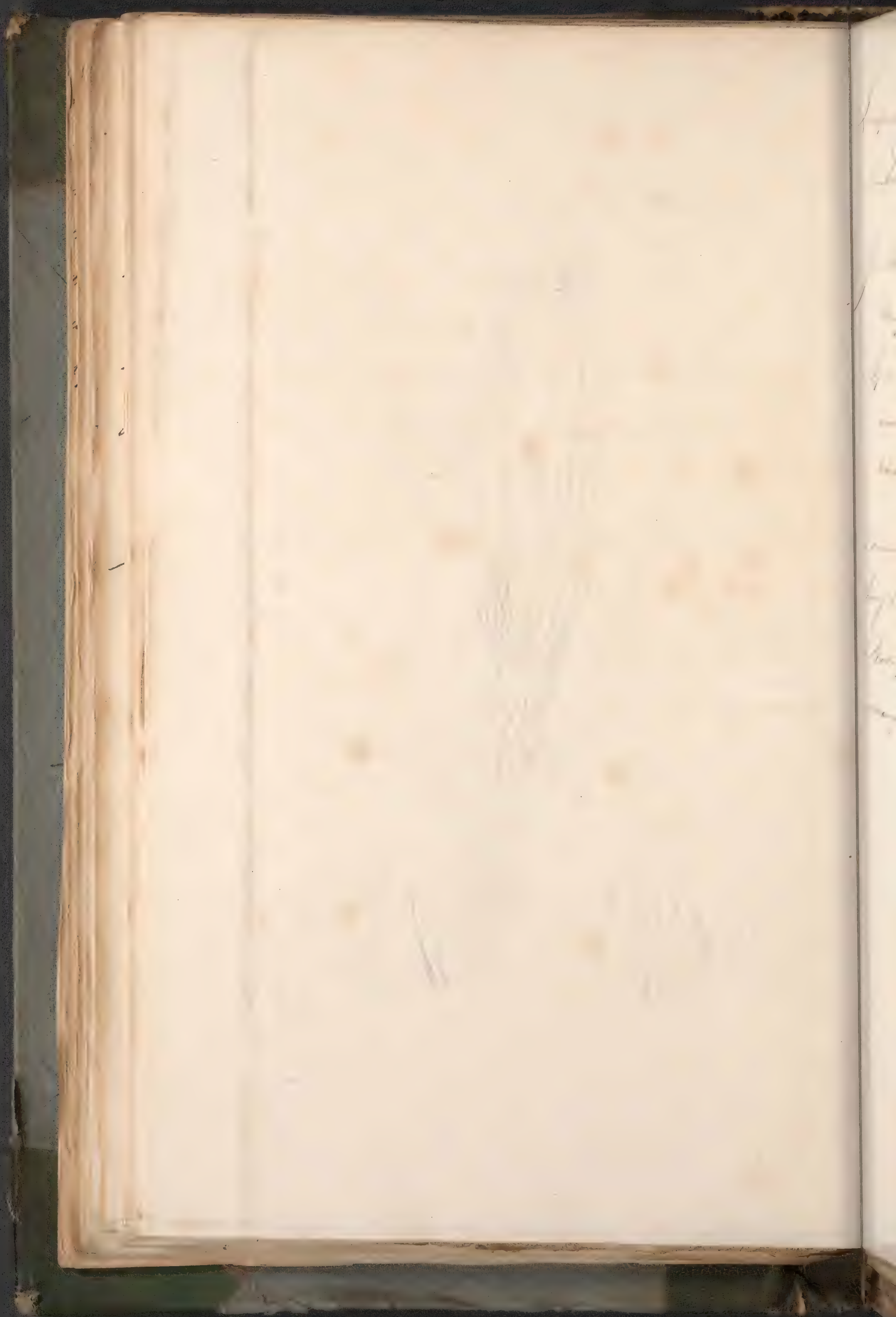
SPEC. CHAR. Culm round, naked. Spike somewhat oval, terminal.

SYN. *Scirpus palustris.* *Linn. Sp. Pl.* 70. *Huds. Fl.*

An. 17. *With. Bot. Arr.* 46. *Relb. Cant.* 18.

Sc. Equiseti capitulo majori. *Raii Syn.* 429.

VERY common every where in ditches, marshes, and rivulets. The root is perennial, creeping, throwing out many yellowish fibres, and producing thick tufts of upright, cylindrical, smooth, naked stems, becoming striated when dry, clothed at their base with a close, blunt sheath, which is invested with two or three other shorter, more membranous, and reddish sheaths. The plant seems perfectly destitute of leaves. The spikes are solitary at the end of each stem, erect, oblong, appearing oval from the spreading of their scales in flowering, and sometimes accompanied by a small, membranous, close-pressed bractea. Glumes oval, solitary, acute, with a membranous edge. Filaments slender, as in all grassy plants; antheræ large, yellow, projecting entirely beyond the glumes. Style short, with three long, taper, downy stigmas. Seed roundish, smooth, yellow, with a brown apex. This *Scirpus* flowers in June and July, and varies very much in size occasionally.



Scirpus cespitosus - Scaly Stalked Club Rush
Tremandra monogyna

Sp. Ch. - Glumes chaffy imbricated even
 May all fertile - Cor 0. Seed 1.

Sp. Ch. - Stem round striated sheathed &
 invested with numerous scales at the
 base - Spike terminal Outer glumes largest.

Common on barren top of rocks among
 high & coarse grasses flowering in July
 Root perenn. fibrous not creeping &
 many yellow thick simple fibres -



SCIRPUS acicularis.

Least Club-rush.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, imbricated every way,
all fertile. *Cor.* none. *Seed* 1.

SPEC. CHAR. Stem with 4 angles, with a blunt sheath
at its base. Spike ovate, acute, terminal, solitary.
Outer glumes the largest.

SYN. *Scirpus acicularis.* *Linn. Sp. Pl.* 71. *Sm. Fl.*
Brit. 51. *Huds.* 18. *Sibth.* 23. *Dicks. H. Sicc.*
fasc. 14. 1.

S. minimus, capitulis equiseti. *Raii Syn.* 429.

Cyperus acicularis. *With.* 78. *Hull.* 13.

THIS minute *Scirpus* grows in damp heathy places, where
water has stagnated during the winter, but is very rarely met
with. Our specimen came from Wanstead Park, Essex, in the
middle of August.

Root fibrous, perennial. Stems numerous, simple, from 2 to
4 inches high, very slender, erect, roundish when fresh, but
marked with 4 smooth angles, which in drying become very
conspicuous. The base is invested with a tight blunt beardless
sheath. Leaves few, shorter than the stems, obsoletely qua-
drangular, being flat above, and somewhat rounded beneath.
Spike small, solitary, terminal, ovate, acute, composed of 5 or 6
flowers, whose glumes are truly imbricated in every direction,
not two-ranked, so that it properly belongs to this genus, and
by no means, either in character or habit, to *Cyperus*. Each
glume is sharply keeled, pointed; the margin membranous;
the 2 lowermost are rather the largest, and sometimes barren.
Seed elliptical, without any bristles at the base.



Lin. 1794. Bot. Lib. 1. p. 2. 2nd ed.

Gen. Cha.
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SCIRPUS fluitans.

Floating Club-rush.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, imbricated every way, all fertile. *Cor.* none. *Seed* 1, beardless.

SPEC. CHAR. Flower-stalks round, naked, alternate. Stem leafy, flaccid.

SYN. *Scirpus fluitans.* *Linn. Sp. Pl.* 71. *Huds. Fl. An.* 18. *With. Bot. Arr.* 48. *Sibth. Oxon.* 23.

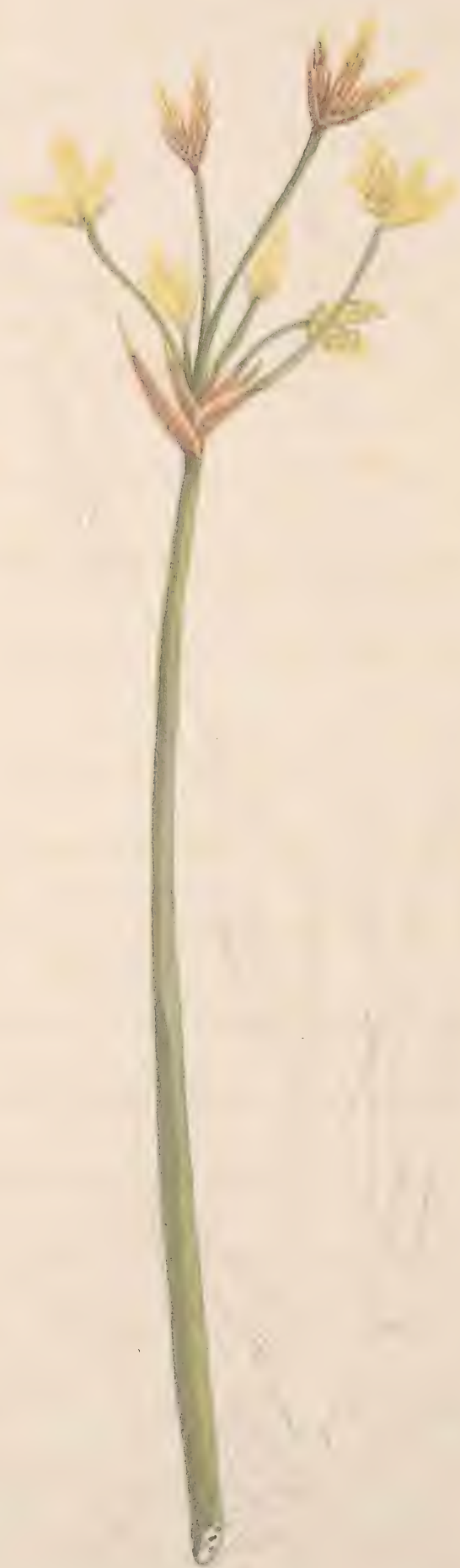
Sc. *Equiseti capitulo minori.* *Raii Syn.* 431.

THIS occurs in ditches, and in little pools upon grassy commons and heaths, the water of which is apt to be dried up in summer, but is by no means a common species. It may be found on St. Faith's bogs near Norwich, on Hounslow Heath, and Epping Forest, flowering in June and July.

The root is perennial, and the stems throw out many long radicles as they stretch in a floating position many together over the surface of the water. The leaves are alternate, sheathing at their base, and then much divaricated, partly floating, partly above the water. The spikes stand erect above the surface, and, though small, are conspicuous by their number and whitish colour. Each consists of but few flowers, whose glumes are not much shorter than the stamina, and the two lowermost are particularly large, so as to appear like bractæ; but they have always parts of fructification belonging to them. The stigmata are only two in number.

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Scirpus lacustris - Bull Rush

Islandia monogyna

Genet. - Glumes chaffy imbricated
every way all fertile. Corolla short bearded.

Spec. Ch - Stem round naked Panicle
cymose twice compound terminal

Spiklets ovate -

The bull rush grows abundantly in Char
Slitches Streams & the borders of lakes flow
ing in July & August of its stems the
mud Bottoms of Charis are made - Cattle
in hard seasons will eat it & it is also
used for packing & packages occasionally
being of a soft pliant texture totally
destitute of the roughness & cutting edges of
many grass like Plants - Roots creeping
under water horizontally thick & strong
Stems upright 4 or 5 feet or more in height
perennial simple naked round smooth
dark green very spongy & full of watery
Juice within clothed at the base with these -

several sheathing scales. Panicle doubly
compounded in a cyme like form terminal
spreading its branches very unequal com-
pound fringed towards their extremities
sheathed at their base with several unequal
lanceolate chaffy bracts. Spikes generally
by 2 or 3 together clustered ovate brown
with a shining rusty tinge - glumes concave
keeled pointed fringed sometimes above
but with a serrated point in the chaff
stamens not very long. Stigma 3-lobed
seed flat on one side convex on the other
with 5 or 6 short rough bristles at the base
as in *S. maritimus*

Scipio 8

[illegible]

Scirpus maritimus. Salt Marsh

Club Rush

Triandra monogyna

Grasses - Glumes huffy imbricated
every way all fertile

Spec. Ch. Stem triangular - Panicle
clustered huffy terminal Glumes
pointed torn into 3 segments

In Salt Marshes & about great Rivers
exposed to the tide in many diff^t parts
of the Kingdom flowering throughout July
& August. Root perennial creeping
knotty at the extremities - Stem erect
from 1 to 3 feet high triangular striated
huffy the angles roughish - Leaves linear
carinated long rough at the edge - sud-
denly for the most part contracted to a
sharp point, the lower one sheathing &
alternate those under the panicle sessile
& very unequal in length - Spikes
forming a panicle among the upper leaves
more or less numerous sessile or peduncle

culated. ovate sheath col. sometimes
lengthened out into a very long cylindric
figure of lumen shining ovate keeled
ribbed long pointed torn at the summit
Stamina long with yellow linear anthers
Seeds triangular flattest on 1 side fe-
nisht at the base with one or more short
rough bristles so nearly are the genera
of *Scirpus* & *Encophorum* allied

Mr Curtis observes that the Roots
very sweet & would probably afford
good & nutritious food for Hops — being
larger than those of *S. palustris* which
are collected for that purpose in Sweden



Scirpus Sylvaticus - Wood Club Rush

Isandria Monogynia

Grass - Glumes chaffy antecolour
every way - all fertile Cor. o. Seed 1

Spikes Stem triangular leafy.

Cyme leafy terminal; its stalks
naked & repeatedly subdivided

Spikes clustered

It is perennial flowers in June &
July & loves moist shady situations
but is by no means frequently to be
met with - Root fibrous Stem 3 ft
or more in height simple erect leafy
triangular smooth - Leaves linear
broad taper pointed strongly ribbed
smooth except the margin of the upper
most - The radical ones numerous forming
a dense tuft. The others alternate - Pa-
mide of more spreading repeatedly bran-
ched. The stalks rough each accompanied

In a sheathing Bractea at its base —
Spikes terminal most of them clustered
small ovate — Glumes ovate entire —
shrub-like keel'd-green with a tinge
of brown towards the extremity — Sta-
mina slender. Style deeply 3 cleft,
Seed orbicular with 3 angles compressed
whitish smooth — its base enveloped
with 6 or 8 Bractles twice as long as the
Seed when arrived at maturity —



Handwritten notes on the right margin, including fragments of words like "Cory", "Gard", "Sp", "a la", "Sp", "this", "high", "of", "the", "low", "stone", "Sp", "prop", "the", "M", "the", "man", "A", and "sup".

Eriophorum vaginatum — Hares tail

Cotton Grass

Scandria monogyna

Yew-like as before

Spikes — Stem round inserted with
a tubular scar. — Spike solitary
Glumes membranous

This is not infrequently seen on the
high barren heathy moors of the North
of England but it is rather remarkable
that so mountainous a Plant should have
been found near Graydon & between Gains-
ton & Rymon — Its silvery blue flowering
Spikes with the yellow anthers a little
projecting between the scales are observ-
able in March but the Plant becomes
much more conspicuous in May & June
when the snow white chert of hair there
encompass the seed form a dense oval
tuft not unaptly compared to a Hares tail

The roots are perennial - Stems erect & branched
clothed with 1 or 2 cylindrical swelling
membranous bluish sheaths after tipped
with a small point from whence originates
the terminal panicle - The leaves are
straight linear somewhat triangular & most
upright sheathing at their base -
Sheep are said to be very fond of the

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Eriophorum polystachion - Broad -
leaved Cotton Grass

Trandria Monagyna

Genet. Glumes chaffy imbricated
on all sides. Cor 0. Seed 1. inserted
with very long hairs.

Spec Ch. Stem round leaves flat.

Spikes several on flower stalks

Observed by Mr Dickson on Bogs in
Northamptonshire &c It is perennial
flowering in April. & bearing its white
tufts of seed from June to Aug^r or Sept^r
Root fibrous not creeping. Stem erect
2 feet high round striated smooth leafy
leaves alternate much shorter than the
stem flat & slightly keeled linear lance-
olate smooth towards the top more a-
cutely keeled. Sheathing at the base
Spikes several ovate on stalks which
are sometimes branched as in our figure
but more frequently simple Glumes
lanceolate filmy. After flowering the

flower stalks are lengthened out & pendulous
The white hairs which surround the seed and
grow to a considerable length - the legs
than in the more common species -

The Down is used in poor mountain
countries for stuffing pillows but there
is a prevailing opinion of its not being
wholesome to sleep on - It is too brittle
to be manufactured into thread of any
kind



Eriophorum angustifolium. C.C.G.

Triandria Monogyna

Gen. lch. Glumes chaffy imbricated
on all sides. Cor. 0. Seed invested
with very long hairs

Spec. Ch. Stem round. Leaves channelled
triangular at the tip. Spikes several
on flower stalks.

Very common & plentiful on turf bog,
flowering in April & its brilliant white
tufts look throughout the summer like
feathers scattered over the country.

Root creeping. Stem round more slender
than the last, striated smooth - leaves
but little shorter than the stem semi
cylindrical channelled smooth narrower
than in *E. polystachion* sheathing at the
base terminating in a triangular point.
The floral ones 2 or 3 lvs linear flat
various in length - Spikes from 3 to 5 ovate
on stalks of different lengths but always
simple - Glumes brown with a felmy edge

after flowering the Spikes are partly erect,
partly drooping but by no means pendent
& the white hairs are protruded to at least
twice the length of the Keel last described
which renders this much more conspicuous
& handsome.

Cattle feed readily on the leaves of this
grass in the Northern Counties early in
the Spring, before other herbage is suffi-
ciently advanced but in more favoura-
ble climates it is not worth the far-
mers notice.



Herb. 1796 Published by J. Sowerby London

ERIOPHORUM alpinum.

*Alpine Cotton-grass.**TRIANDRIA Monogynia.*

GEN. CHAR. *Glumes* chaffy, imbricated on all sides.
Cor. none. *Seed* 1, invested with very long hairs.

SPEC. CHAR. Stem naked, angular. Spike solitary,
 erect, shorter than the hair of the seeds.

SYN. *Eriophorum alpinum.* Linn. *Sp. Pl.* 77. *Flo.*
Lapp. Ed. 2. 20. *Transf. of Linn. Soc. V.* 2. 290 &
 356. *Fl. Dan. t.* 620. *Dicks. Hort. Sicc. Fasc.* 8. 3.

Juncus alpinus bombycinus. Scheuchz. *Prod.* 27.
t. 8. *f.* 1.

FIRST discovered in Britain by Mr. Brown and Mr. George Don, in a turfy bog 3 miles east of Forfar, in the shire of Angus, Scotland.

We are obliged for wild specimens to Mr. John Mackay of Edinburgh, a most diligent and skilful investigator of the vegetable kingdom, by whose communications we have often been enriched. It grows in alpine situations, flowering about July, and has hitherto been announced as a native of our island, in the 2d volume of the Linn. Society's Transactions only.

Root perennial, creeping horizontally among bog-earth and sand, with many fibrous radicles. Leaves few, linear, rough on the edges, obtuse, sheathing at their base, erect, sometimes 3 or 4 together on a barren branch. Stems several, erect, much taller than the leaves, close together, with 3 and sometimes 4 rough angles, striated, their base enveloped in one or more short sheathing leaves, and a few tubular, membranous, bluntly acuminate scales, seeming like the rudiments of leaves. Spike solitary, terminal, erect, oval, small, of several ovate, yellowish brown, sharply keeled scales, the lowermost tipped with a leafy point. Seed sharply triangular, clothed with long, not very numerous, hairs, which originate from its base, and rise much above the top of the style. Their extreme whiteness and their delicate texture give an elegant appearance to the plant, though it boasts none of those gaudy colours requisite to excite the attention of many, who really fancy themselves persons of taste and admirers of Nature, but who are as inadequate judges of their own talents, as of the universal elegance and wisdom of the creation around them.

March

1895

March 1st

1895

March 2nd

March 3rd

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March 16th

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March 18th

March 19th

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March 28th

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March 30th

NARDUS stricta.

Mat-grass.

TRIANDRIA Monogynia.

GEN. CHAR. *Cal.* none. *Corolla* of 2 valves.

SPEC. CHAR. Spike slender, erect, the flowers all pointing one way.

SYN. *Nardus stricta.* *Linn. Sp. Pl.* 77. *Huds. Fl. An.* 22. *With. Bot. Arr.* 54. *Relb. Cant.* 21. *Sibth. Ox.* 33.

Gramen sparteum juncifolium. *Raii Syn.* 393.

THIS grass may be observed on sandy heaths in most parts of England, especially in moist or moorish spots, where it forms thick tufts of rigid rush-like leaves, which remain through winter

———"bleaching in the northern blast."

The roots are perennial, fibrous, strong and downy. Leaves linear, very narrow, acute, striated, rough in the margin, very harsh and rigid, suddenly divaricating from their broad sheathing striated base, which envelops the bottom of the stalk, and is itself enveloped with scales externally, and crowned at the divarication with the usual stipula of grasses. Each stalk supports one leaf, and is erect, striated, rough, of the same texture and harshness as the leaves, and a little longer, bearing a very slender spike of equally slender flowers, alternately placed in two rows, but all pointing one way, though very little divaricated at any time from the stalk, and both before and after flowering clapped close to it. Valves of the calyx unequal in length, purplish and rough in the margin. Filaments a little exceeding the longest valve, tipped with nearly linear antheræ. Germen small. Style solitary, slender, downy.

The Mat-grass flowers in May, June or later. Of its agricultural uses little can be said, for cattle in general refuse it; and though mats or baskets might be made of it, we are supplied from Spain with better grasses for those purposes, particularly *Stipa tenacissima*.



1. 7. 75. Published by J. E. Smith, London.

Bartholomaeus

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Anthoxanthum odoratum. Sweet scented

Perennial Grass

Diandria Digynia

Perianth Cal a husk of 2 valves single
flowered Cor of 2 valves awned Seed 1

Spike ovate oblong flowers
longer than their awns standing on short stalks

This is the only British Grass except *Briza*
diandrus & *Carex atrata* that has fewer
than 3 Stamina by which mark this is
easily known — it grows frequently & plen-
tifully in Pastures flowering in May & June
& is supposed to have a principal share in
imparting the delightful fragrance to New Mown
Hay for when partially dried it exhales a very
sweet odour & even in a recent state its
stalks if chewed are found highly aromatic
tasting not unlike those of fresh Sassafras
It is esteemed a good food for Cattle in gen-
eral



Phalaris phleoides
Cats tail Canary Grass

Triandria *Digynia*

n. Ch. Cal. of 2 carinated equal valves
longer than the Corolla. single flowered

See. Ch. Panicle nearly cylindrical in
the form of a spike. Glumes linear lan-
ceolate smoothish their inner margin
asperate Stem simple

A native of high sandy Countries.

Root fibrous perennial crowned with tufts
of spreading glaucous leaves which endure
the Winter. Straw simple generally soli-
tary most leafy below round smooth
purple & shining above a foot & a half
high. Leaves sheathing linear lanceolate
rough at the edges their sheaths scarcely
inflated roughish. Panicle terminal
solitary erect dense nearly cylindrical

Exactly like a Spike but when bent or one
it separates into lobes or Branches of several flo-
ers each. Cal. nearly linear somewhat con-
stricted near the top purplish. The valves linear lan-
ceolate compressed pointed 3 nerved a little de-
cated at the top & furnished with a white membra-
nous margin which at its summit is in some
degree abrupt approaching to the structure of a
Phleum but this Species cannot be considered
as such on account of its close affinity to *Phalaris*
arabica L. 222. from which it differs however
as a Species in having a perennial Root. a
branched or panicled Spike glumes less frequ-
ly & completely ciliate & lanceolate (not ab-
rupt or crenate Petals.

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PHALARIS arenaria.

Sea Canary-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of two carinated equal valves, longer than the corolla, single flowered.

SPEC. CHAR. Spike ovato-lanceolate. Glumes ciliated. Stems several.

SYN. *Phalaris arenaria*. *Huds. Fl. An.* 23.

Ph. phleoides β. *Ait. Hort. Kew. v.* 1. 86.

Phleum arenarium. *Linn. Sp. Pl.* 88. *With. Bot. Arr.* 62.

Gramen typhinum maritimum minus. *Raii Syn.* 398.

FOUND every where about sandy sea-shores and the neighbouring fields; it has even been observed upon Swaffham heath by James Crowe Esq. and on that of Newmarket by the Rev. Mr. Hemsted, who favoured us with this specimen. On the sea-coast the plant is seldom so luxuriant. It is an annual, and flowers in June.

The root is fibrous, and downy, like the grass last described. Stems several, dividing from the crown of the root or a little higher as in wheat, sometimes bent at the joints, clothed with leaves, whose edge is a little rough, their sheaths long, inflated, striated and smooth. The flower-stalk commonly very little exceeds the uppermost leaf, and is terminated by an upright rigid spike, swelling in the middle, consisting of a great number of erect thick-set flowers. The calyx is green, with white keel ribs and margin; the valves lanceolate, gradually tapering to a sharp point, and by no means lopped or truncated as in the genus *Phleum*; their keel, and sometimes their margin, is ciliated with white hairs. Corolla of two short, crenated, striated petals.

The ciliated valves distinguish this plant from *Phalaris phleoides* of Linnæus, certainly of the same genus, though its different habit and appearance (which we hope one day to have an opportunity of exhibiting) will not allow us to agree with the *Hortus Kewensis* in making them the same species. Not one of our English writers has well understood these two grasses, nor *Phleum paniculatum* of Hudson, which is very distinct from both.

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Lanceum verticillatum. Rough P. Grass

Triandra digynia

Grass Cal of 3 valves single flower

The 3^d valve very small - seed inserted
with the perianth at the base of the ovary

Spikes Spikelets in 4's

Involucra of 2 Bristles rough with re-
versed teeth & embracing a single flower

Found occasionally in cultivated fields
particularly such as are somewhat moist

We believe no place in England is so cer-
tainly known to produce it as the neigh-
bourhood of Battersea - It is merely a

Botanical curiosity being a useless if not
a noxious weed to the agriculturist

It is annual flowering in July & Augth

It is always in however dwarf a state
certainly distinguished from the *Veronica* by

the following curious mark Involucra of

2 Bristles to each flower not reaching
far beyond the flower & these bristles are very
rough with little sharp teeth pointing backwards

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Panicum viride Green Panic Grass

Trianthia alaynia

Spikes Cal of 3 valves single flower
The 3rd valve very small seed enclosed
with the permanent hardened Corolla

Spikes Spike cylindrical Spikes
crowded. Involucra of several bristles,
rough with ~~coarse~~ teeth & embracing 2
flowers

This is also a native of cultivated
ground but generally ⁱⁿ more dry than
by than *P. verticillatum* nor is it es-
timated so rare a species. We gathered
it at Ballena & have found it about Nor-
wich. It is annual flowering at the
same time as the preceding & is of as
little value to the farmer

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Panicum Crisp. Galli - Horn Panic Grass

Triandra digyna

Gen. Char. Cal of 3 Nerves single flower
The 3^d Nerve very small - Seed inversed
with the permanent hardened Corolla
Sp. Char. Spike only compound its
Stalks mostly 5 angled - Spikelets al-
ternate or in pairs subdivided Cal-
bearded rough

Gathered at Battersea with the
2 last described - They are all reckoned
among the most rare Brit. Grasses
Root annual fibrous - Stems strong
erect or spreading 2 feet high or more
leafy striated smooth - Leaves long
& broad rough with swelling sheaths,
without stipules - Spikes erect 2 or
compound being formed of spreading bran-
ches generally leaning to 1 side standing
either alternately or in Pairs & each com-
posed of several thick set looked Spikelets

The common Spike-stalk is rough & more
or less constantly 5 angled - which however
varies according to its luxuriance - Flowers
nearly sessile without Involucre
Cal. ribbed bristly with 2 longer Glumes
either with or without Awns which are
rough with erect teeth & very various in
length - Cor extremely polished & even tip
ped with a little point now & then down
at the summit. - A thin alleplueal Mem
brane is clapped close to the inner Valves
of the Cor - on the outside which Dr Stott
considers as a 4th Valve of the Cal. No doubt
justly & mentions having seen it in the
Veride & some other Species - We have
not however been equally successful
in this respect

Canis 2



Panicum sanguinalis - Cocks foot Panic grass

Triandria digynia

Genl. Cal. of 3 Valves single flowered
The 3.^d Valve very small seed invlvd
with the permanent hardened Cor^a

Spec. Ch. Spikes finger like knotty at
the base on the inside. - Flowers in pairs
heavily. Sheaths of the leaves dotted

To be found most constantly in Batter
sea fields - in other parts of the Kingdom it
occurs but sparingly or occasionally as much
always be of the case with such Animals (grasses
especially) as grow only on a rich man^d. Soil
Root fibrous sm.^d flowers from July to the
End of Autumn. Stems numerous here &
decumbent at their base spreading widely
upwards in length from 12 to 18 in. Smooth
Leaves broad nearly smooth generally shorter
than their sheaths which are striated & fre-
quently but not invariably having each
hair springing from a small cartilaginous

puncture but all the punctures do not always
produce hair - Spikes umbellate or a little
distant spreading linear thin stalks rays
winged often swollen or knotted at the base

Flowers in alternate pairs bearing one leaf
of a dull violet here - Cal of 3 very une-
qual ribbed valves of which the smallest is
often abortive - Cor. of 2 concave valves which
become quite hoary as the seed ripens -

Anthers & styles dark purple - it is a hard
coarse grass of no agricultural use



Panicum Dactylon - Creeping Panic Grass

Triandra Aegyptia

Gen. Ch. Cal of 3 lobes single flowered
The 3rd value very small - Seed smooth
with the permanent hardened corolla

Spec. Ch. Spikes finger like hairy at
the base on the inside - flowers solitary
Cal of 2 nearly equal values. contrary to
the Cor. Shoots creeping

Found about Pungue in no other part
of Gr. Britain - common in the Streets of
some of the large Towns in Italy

This grass flowers in July or Aug. or later
The strong perennial roots are formed of
hard polished runners - situated horizon-
tally in the sand & throwing out from each
joint a cluster of smooth fibres not downy
as in most grasses that exhibit loose sand
The runners are for the most part clothed
with the permanent bases of the leaves

which are alternate rigid sharp pointed &
hairy. Stipula a tuft of hairs - Stems
a span high leafy. terminated by a cluster
3 or 4 linear purplish umbellate spikes -
whose stalks are zigzag angular but not
winged - flowers solitary leaning one way
Cal of 2 valves only - but the striking simi-
larity between this species & *P. sanguinalis* for-
bids us to forbid us to follow Injunc & others
in making it a separate genus - Cor -
certainly of 2 valves not of 1 only as de-
scribed by Injunc - These valves being
contrary not opposite to the cal - might go
further to establish a generic character than
any hitherto noticed



Phleum pratense Com: Cats tail grass

Tremandra alypinia

Genl Cal 2 valves abrupt pointed
Sepals longer than the Cor. single flower?

Spe. Ch. Spike cylindrical very long
Glumes fringed at the back longer than
the awns

Common every where in Meadows pas-
tures & waste ground flowering from
June to Oct. Root perennating &
more or less creeping. Stems erect 3 or 4
feet in height leafy except in the upper
part striated. Leaves flat tapering to a
point roughish to the touch with long
striated cylindrical sheaths crowned by a
short blunt stipule. Spike solitary
upright cylindrical obtuse composed of
innumerable closely crowded flowers
varying from 2 to 4 or 5 in in length.
The Cal. valves are green or purplish with
pale nerves & a dilated white membranous
margin their keel fringed their awns
short & a little spreading the Corolla

is rubbed with green — the anthers hang
loosely out of the flower & are more com-
monly purple In situations occasionally
dried up every part of the herb is smaller
& the joints of the root become swollen
& very succulent in this state it is the
Phleum nodosum of Linnæus & then an-
thers

Professor Martyn has successfully shown
the utility of this grass to agriculturists
by this herb. it appears to have been celebra-
ted formerly on very slight grounds —

But this very grass is the Timothy
of the utility of which ask Jonathan.



Phleum alpinum - Alpine Cat-tail Grass

Islandria alypnia

Gen. Ch. Cal. 2 valued abrupt pointed
sepals longer than the Cor. single flowered

Spec. Ch. Spike ovate cylindrical
Arista about as long as the glumes

First discovered by Mr. Dickson on Moun-
tains near Garway Moor Scotland

It is a truly alpine Grass making the
principal part of the Turf in the most
elevated pastures of Switzerland & pro-
bably is to be found in similar situa-
tions in more parts than one of our Island
Root enclosed to be creeping & a little
tuberous - Stem mostly solitary simple
ascending about a foot or more in height
hairy below naked smooth striated &
very strict above - Leaves broadish sharp
pointed rough in the margin. Stipulae
very short but triangular & leaf abrupt
than in the common *P. pratense*. The
Sheaths of the upper leaves are inflated &
longer than the leaves themselves - Spikes

scarcely an inch long ovate or nearly cy-
lindrical obtuse tinged with dull purple
of which here the straw & sheaths of the
leaves mostly partake - The glumes of
the Cal. are ciliated with long hairs &
are a little decussate. Their keel is
green - The aristae ~~subulate~~ terminate them
being almost if not quite as long as the
glumes distinguish this species from the
pratense - The Cor. consists of 2 unequal
lobes of which the larger is ribbed &
bearded

Phoenix 3



Phleum paniculatum - Panicked Cat
tail grass

Trocandrin Lycopodium

Grass Cal 2 valves abrupt pointed
Sepals longer than the cor. single flowered
Spec. Ch - Panicle glandular resembling
a spike - glumes naked turned in
their upper part - Stem branched.

The merit of making this grass known
to British botanists, entirely belongs to
Mr Hudson - It is an annual grass
occurring but very rarely on dry elevated
ground flowering in July - Root of
several strong short fibres - stems several
branched leafy very smooth - Leaves numerous
upright pointed of a grass green not at all
glaucous here - investing the stem with
their long striated somewhat swelling
sheaths stipules somewhat long & obtuse
pointed generally torn. Panicles solitary
erect & straight 2 or 3 in long exactly resem-
bling the dense glandular spike of the
other species but when bent to 1 side

They are found to consist of many branched
lobes forming a true panicle which feels
rough like a file from the short rigid
awns of the Cal.^m Cal. variegated with green
& white wedge shaped rough under a magni-
fier of 2 equal wedge shaped glumes. swell-
ing upwards each tipped with a short
awn & bordered on the inside with the
genuine abrupt margin of a Pileum
Antherae short whitish.



ALOPECURUS pratensis.

Meadow Fox-tail-grass.

TRIANDRIA Digynia.

GEN. CHAR. Cal. of 2 valves, containing a single floret. Cor. of 1 valve.

SPEC. CHAR. Stem erect, smooth. Spike somewhat lobed. Glumes of the calyx hairy, united at their base,

SYN. Alopecurus pratensis. Linn. Sp. Pl. 88. Sm. Fl. Brit. 72. Hudf. 27. With. 119. Hull. 16. Relb. 24. Sibth. 34. Abbot. 12. Curt. Lond. fasc. 5. t. 5. Mart. Fl. Rust. t. 6.

Gramen Alopecuro simile glabrum, cum pilis longiusculis in spicâ. Raii Syn. 396.

A VERY common and extremely valuable grass in rather moist and fertile (but neither very wet nor very dry) pastures and meadows, flowering in May; for whose properties and advantages we must refer our readers to the *Flora Londinensis*, contenting ourselves with summing up the whole in the words of Prof. Martyn. "It undoubtedly possesses the three great requisites of quantity, quality and earliness, in a superior degree to any other."

To distinguish this grass at first sight by its oblong, cylindrical, thick, somewhat silky and grayish spikes is not very difficult. It may with botanical certainty be known by the lanceolate (not abrupt) calyx, containing only one flower, whose corolla consists of a single glume or husk, the character of the genus. Its smooth stem, short stipulæ, and the silky down which clothes the glumes, added to its much thicker somewhat compound spike and perennial root, distinguish it from *A. agrestis*, the only species besides that has the glumes of the calyx united at their base.

I have sometimes seen a kind of *Musca* sticking in considerable numbers to the spikes of this grass, quite dead, but recent, and apparently poisoned, or killed by some sudden cause, without any derangement of its form or position. This was first I believe noticed by my intelligent entomological friend Mr. Marsham.

St. pascuosa 4





Hesperurus agrestis. Slender Fox tail f.

Trandrium Sisyria

Genl. Cal. of 2 Values containing a
single flower. Cor. of 1 Value

Sp. The Stem erect roughish. Spike
prospically simple taper. Glumes of the
Cal nearly naked - united at their base
(dilated at the base)

A native of Corn fields & waste grounds
flowering in July & the Root is annual
This differs very materially from the mea-
dow fox tail for as there is it per? duration
situation in meadows & pastures & excellent
qualities for fodder may be esteemed one of the
most valuable this on the contrary is rather
to be reckoned a weed exhausting the strength
of available land to no purpose Root small
& fibrous Stems several about 1 1/2 feet high
erect leafy roughish to the touch the leaves
to the sight in the upper part. Leaves pale
green rough on the upper side with an oblong
downy stipula Spike nearly 3 in. long very

slender & tapering perfectly simple not branched
often of a purplish hue Cal glumes (smaller)
at their base a little downy at the edge
not so fringed as in *S. prostrata* - their keel
dilated - Cor. smooth with an awn from
its base

Agnes 15

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[Faint, illegible handwriting throughout the page]





Agrostis Spica Venti — Silky Bentsgrass

Triandria Digynia

Length Cal of 2 acute Valves single flower

Cor of 2 unequal Valves larger than the Cal.

Stylus feathery

Spec Ch — Exterior petal furnished with a straight stiff very long awn inserted below the summit. Panicle spreading

It is by no means a common grass but is chiefly to be looked for in sandy Corn fields that are occasionally inundated. Root an usual form of several crooked fibres peculiarly thick at their origin. Stems several 2 or 3 feet high leafy smooth furnished with 1 or 2 joints near their base. Leaves often a little downy above rough to the touch underneath. Sheaths jagged. Panicle varying from 3 in to a foot in length the numerous branches clustered in several alternate series one above another their subdivisions angular & rough. Flowers extremely numerous small.

Glycymeris greenish white or purplish — Those of
the Cal. acute rough on the keel unequal in
length the top so there in some fringes — Outer
Petals notched rough on the keel & margin bea-
ring on its back below the summit a very long
straight rough awn which as far as we know
is never wanting. The Petals inner is
smooth tender pointed & awnless but has a
few fine hairs at its base —

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[The main body of the page contains several paragraphs of extremely faint, illegible handwriting. The text appears to be a narrative or a series of observations.]





Aira cristata - Crested Hair-grass

Islandia Begynia

Genl. Cal. of 2 Values 2 flowered

Cor of 2 values - florets without any imper-
fect one between them -

Spec. Ch - Panicle spiked. Cal. longer
than its flower stalk - Petals sharp pointed
unequal -

In dry calcareous barren pastures or on
Walls but not very frequent nor is it a grass
well understood. - it is perennial & flowers
about July or Aug^r - Root of many simple
downy fibres crowned with a thick tuft of leaves
Stems simple erect about 6 in. high smooth
purplish more leafy below - leaves linear
smooth a little rigid with a short stipule & a
long sheath which is sometimes downy - Pan-
icle erect dense resembling a spike - compound
of a silvery green hue its flower stalks downy
the partial ones very short & erect flowers ovate
lanceolate. Cal. for the most part containing 2
florets rarely 3 nor have I ever seen more
It is formed of 2 unequal slightly downy husks

sharp-pointed keels & ribbed with a membranous
edge — Our petals like the Cal. inner ones
thinner & narrower very little shorter — Some-
times the points of the husks are lengthened out
into short awns —



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Aira caryophylla Silver Hair Grass

Islandia argyria

Genlth Cal of 2 Values 2 flowered

Cor of 2 Values. - florets without any
imperfect one between them

Spurth - Leaves slender & tapering
branches of the panicle ternate & spreading
florets sessile down from the back of the
Cor. twisted

This pretty grass with its elegant silvery
Panicle is frequently to be seen ornamenting
barren & sandy hills & pasture flowering
June or early in July & after that is soon
burnt up & disappears its roots which are
annual being very little calculated to resist
Drought From one root arise several
spreading slender stems about a span high
smooth & leafy. The radical leaves soon
withers than on the stem are narrow &
tapering with long sheaths & lanceolate long-
jointed stipules Panicle very slender & hair-
like divided & subdivided in a ternate man.

ner smooth & divaricated. Flower, small
ovate green or purplish with a shining silver
line scarcely to be expressed in a drawing
Cal. glumes rough at the keel membrane
at the points. florets both sepals downy at
their base. Outer Nerve of the Cor. bearing
twisted down on its back about twice its ori-
ginal length. — This grass may contribute
towards the early summer food of sheep
for which reason probably Mr Stillingfleet
figd. it in his work — but it is justly ob-
served in the flora Londonensis that so insigni-
ficant an annual can hardly be worth cul-
ivating for the improvement of meadow
pastures

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MELICA cærulea.

Purple Melic-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, with about 2 flowers, and the rudiment of another between them. *Cor.* of 2 valves.

SPEC. CHAR. Petals acute, beardless. Panicle dense. Flowers erect, cylindrical.

SYN. *Melica cærulea.* *Linn. Mant.* 2. 325. *Sm. Fl. Brit.* 93. *With.* 139. *Hull.* 21. *Relb.* 32. *Sibth.* 39. *Abbot.* 16. *Curt. Lond. fasc.* 5. t. 11.

Aira cærulea. *Linn. Sp. Pl.* 95. *Huds.* 33.

Gramen pratense ferotinum, paniculâ longâ purpurascente. *Raii Syn.* 404.

FREQUENT in the most barren sandy boggy places, especially about pools upon mountainous heaths, flowering in August, and varying in height from 6 to 18 inches, according to the nourishment it meets with.

Root perennial, of many strong fibres. Whole herb harsh, rigid, rather glaucous. Stems with a sort of bulb at their base, and one joint a little above it. Leaves upright, sharp-pointed, striated, entire, often hairy on the upper surface. Stipulæ of a few hairs at the top of the sheath. Panicle oblong, erect, of a violet hue, branched, but not spreading. Flowers erect, smooth; their glumes deeply furrowed, beardless. Stamina very slender. Antheræ and stigmas deep purple. One floret is sessile, the other raised on a stalk, which is generally extended above it, and bears one or two imperfect florets besides; but this being not always the case, Linnæus and others have formerly referred this grass to *Aira*. In shady places the panicle is pale or whitish.

Melba 7



Melica uniflora - Wood Melic' grass

Trandria Lycopodia

per L Cal of 2 valves with about
2 flowers & the rudiment of a third
between them. Cor of 2 valves

Spec Ch Petals broad lvs. panicle droop-
ing towards 1 side branched. Flowers
erect Cal. containing only 1 perfect flower

Not uncommon in fens & meadows,
where its red blossoms suspended by capil-
lary & almost innumerable stalks seem
like insects dancing in the air. It flowers
in May or early in June & is perennial
Root fibrous or somewhat creeping - stem
a foot & half high slender leafy rough
terminating in an elegant loose slender com-
pound panicle leaning to 1 side but bearing
its flowers erect. Leaves flat green thin
rough on the edge & back with downy sheaths
crowned by a short variable stipule Cal
of 2 rather unequal purplish brown ellip-
tical husks smooth broad lvs & ribbed

containing only 1 perfect flower generally
accompanied by an imperfect 1 standing on a
little stalk & consisting of 2 or 3 membran
hulls. Cor. of 2 elliptical concave ribbed
lobes notched at their tips. Anthers a
little prominent deep yellow or orange color
Stigmas very feathery.



Melica nutans — Mountain Melic Grass

Trandria Sisyria

Genl Cal of 2 Valves with about 2
flowers & the rudiment of another between
them — Cor of 2 Valves —

Spec lth Petals beardless Panicle close
leaning to 1 side nearly simple Flowers
pendulous Cal. containing 2 perfect
florets.

This is a much rarer Plant than
our last & is only found in Mountain
moss Woods in the North of England
Nor does it seem by height & so on to be
general in Scotland this being what he
mentions as a Variety of the Commⁿ Species
They are however unquestionably distinct
This flower, later the stem is more an-
gular the leaves broader narrower but
it is sufficiently marked by the almost
perfectly simple panicle or spike & the
pendulous flowers. each of which consists
of 2 perfect & fertile florets besides the rudi-
ments of 2 abortive ones —



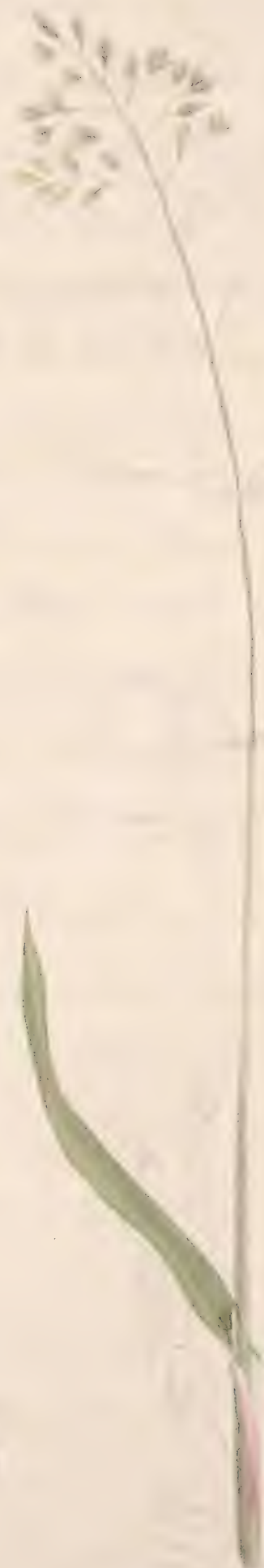
Loa alpina Alpine Meadow Grass
Triandria Digynia

Genlth Cal of 2 Valves containing many
 florets Spikes rounded at the base - Corolla
 of 2 ovate pointed beardless Valves.

Spallth Panicle loose - Spikes heads
 of about 4 flowers. Glumes ovate rather sickle
 shaped not connected by a web. Lower stipules
 very short

Gathered on Mountains to the north of
 Tapa by way down - won't flower in
 July & Aug - The fibres of the root are
 long slender & smooth. Stems from 4 to
 12 in high a little decumbent & rooting at
 their base leafy & sometimes branching below
 naked smooth & shining often purplish above
 Radical leaves many spreading flared
 ribbed a little glaucous beneath rough
 at the margin - bluish grey tipped
 with a short point. Stem leaves about 2
 short with very long smooth sheaths -
 Lower stipules short & blunt upper ones
 sessile often torn or divided. Panicle

spreading short somewhat ovate its branches
angular generally nearly smooth Spicules
ovate so broad as to be almost cordate shining
elegantly variegated with green white & purplish
brown. Coal Valves nearly equal ovate
acute. rather falcate rough on the keel —
Flonets about 4 ovate acute membranous on
the edge the lower part of which is silky & the
keel still more so. several longish hairs
also at the base of each flonet. but the long
complicated web which connects the flonet, of
most Poa is wanting. Inner Valve notched
finely fringed. The flowers in wet seasons are
often changed into buds without any regular pro-
liferation.



Poa trivialis Roughest Meadow grass

Triandria Digynia

Grass

Sp. Ch. Panicle spreading Spikelets
of 3 flowers — Glumes lanceolate & nerves
connected by a web — Stipula elongated

The 2 grasses fig'd in this & the following
plate are among the more common & useful
& tho' they differ in essential Properties Bo-
tanists till lately have scarcely known
how to distinguish them — *P. trivialis*
grows every where in Meadows & Pastures
preferring such as are moist, & flowering
from June to Sep. — Its perennial fibrous
Roots forms tufts. The Stems are generally
a foot & half high leafy even to roughish to
the touch often lacking root at their base
leaves a little spreading flaccid roughish
underneath & at the Edge with sheaths about
their own length crowned with an oblong
pointed Stipula. by which this is distinguish-
ed from the following in every stage of growth

The Panicle is large & spreading when in
flower. Each cal. generally contains 3
florets whose glumes have 5 strong ribs or
nerves, a Char? which distinguishes this
prolensis & Pannu from Alpina sub
cervula bulbosa & some neighbouring
species. The florets are connected by a con
spicuous web.



Loa foalensis - Smooth stalked Meadowgrass

Trandrea Lycopodium

Grass

Spec. Ch - Panicle spreading Spike
lets of 4 flowers. Glumes lanceolate
& nervus connected by a Web - Stipule
la short & blunt

This agrees much with the preceding
in habit & general appearance grows no
less frequently in almost every situation &
is as valuable to the farmer - It flowers
rather earlier comes sooner into leaf & will
grow in much drier places - but the lat-
ter produces a better Crop as the Season advan-
ces - It is known from *trivialis* by the
smoothness of its stems when handled, by
having generally more flowers in a leaf
but most decidedly by its short blunt
Stipule - the Panicle has more often a
purple hue & the Web is particularly long &
complicated.



Poa procumbens - Procurrent Sea Meadow Grass

Triandria Digynia

Gen. Ch. Cal of 2 Valves containing many
florets. Spikelets inclining to ovate - Glumes
ovate pointed beardless -

Spec Ch. Panicle lanceolate pointing one
way condensed rough - its common stalk
round - Spikelets about 5 flowered florets
bluish ribbed

Found upon Waste ground within the
Spray of the Sea flowers in July & Aug^r
Root annual fibrous Whole plant glau-
cous. Stems several more or less prostrate
about a span long hairy smooth beneath
the joints - Leaves flat acute nerved rough-
ish with very long sheaths - Stipula sharp-
ish torn - Panicle rigid hanging to 1 side semi
cylindrical its main & partial stalks near-
ly round rough Spikelets 2 ranked sepals lance-
olate 4 or 5 flowered smooth - Cal. valves very
unequal blunt keeled the outermost having 5
ribs Florets blunt 5 nerved membranous & torn
at their apex their inner valves ciliated -



P O A compressa.

Creeping Meadow-grass.

TRIANDRIA Digynia.

GEN. CHAR. Cal. of 2 valves, containing many florets.
Spikelet ovate; glumes ovate, pointed.

SPEC. CHAR. Panicle condensed; its branches leaning one way, erect before and after flowering.
Stem ascending, compressed,

SYN. Poa compressa. Linn. Sp. Pl. 101. Hudf. Fl.
An. 41. With. Bot. Arr. 89. Relb. Cant. 36.
Sibth. Ox. 42. Dickf. H. Sicc. f. 6. 1.

Gramen pratense paniculatum medium. Raii Syn.
409.

FREQUENT on the tops of walls that are a little covered with earth, and in other very dry places, where it may be found in flower from June to September, and may be easily distinguished by its compressed stem.

The roots are perennial, creeping, consisting of downy fibres, thrown out from the lowest part of the stem, which is decumbent. The straw rises obliquely, the first joints being geniculated, the uppermost very long and erect. Leaves narrow, with a long sheath, and short obtuse stipula, of a glaucous green. Panicle of the same hue, upright, the common stem contracting very suddenly where the first branches come off. All the branches are in the beginning close and erect, acutely angular and rough, a little zigzag: as they flower they spread considerably, but immediately after the discharge of the pollen they become again close-pressed to the main branch, so that the upper part of the panicle looks as if it expanded first. By this mark the grass may be known at a distance. The glumes have a silvery edge, and purplish tip; they vary from 3 to 8 or 9 in each calyx.

This grass can scarcely be put to any agricultural use, though all cattle eat it; it does not thrive in moist or manured ground, and there are many better for dry situations.

*See Grasses in general and especially the creeping
in some of the most fertile parts of the
country - of which the following is a list.*



Poa bulbosa Bulbous Meadowgrass

Trandennia aliyinia

Grass Cal of 2 Valves containing many florets. Spikelike rounded at the base Cor of 2 ovate pointed hooded valves -

Spec Panicle slightly zigzag Spikelets of 4 flowers Glumes connected by a web - Leaves finely serrated Stem bulbous at the base

When the Flora Britan^a was in the press this grass was so little known I found myself obliged to adopt it on the authority of Aud^{on} describing it from the Henrican specimen. Fortunately before the publication of that work Mr Stom furnished me with a Natural Plant from Yaumouth Downs & I was enabled to mention it in the preface. This grass is peculiarly fitted to inhabit dry sandy ground Its bulbs grow in clusters resembling little Onions & during most part of summer remain inactive blown about at random With the autumnal rains they vegetate &

fix themselves by long downy Racemes - then
produce thick tufts of leaves (a grateful food
to Cattle) & in April or May they flower
having in the mean while formed young bulbs
which as soon as the herbage withers are dry
like *Mor. pudicifolia*. By these bulbs the
separated leaves & the usually thick connecting
the stems. added to the broad venous glaucous
& small panicle this species may be known
with suff. certainty.



Poa distans — Reflexed Meadow Grass
Trocantheria distans

Genl. Cal of 2 Nerves containing many
 florets. Spikelet rounded at the base
 Cor of 2 ovate pointed bearded Nerves
 Spec. Ch. Panicle branched lax. its branches
 at length reflexed. Spikelets of 5 obtuse pointed
 slightly 5 ribbed florets.

It is perennial flowering in July & Aug^r
 It may be found in most sandy waste
 places towards the Coast not absolutely on
 the beach & even by the road up Hamstead hill
 Root fibrous not creeping as in *P. maritima*
 The only English grass which can be confounded
 with this. Stems many decumbent at the base
 then spreading to erect about a foot high round
 leaf, striated smooth — the whole perhaps is
 rather glaucous. Leaves smooth acute striat
 with long sheaths crowned by a blunt notched
 Ligula Panicle erect remarkable for the
 striking manner in which its branches soon

become rigidly bent downwards which
is in some degree the case occasionally
with *Pomerania* in that however the
flowers are larger larger & more ample than
in the plant we are describing

Poa 8

Shrub
at
the
base

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Isa subsericea - Blueish & meadow grass

Isa subsericea *Isagynia*

Leaves

1 The 1st Panicle loose Spikely, head shaped of about 3 flowers. Glumes ovate acute connected by a web - Stipules all short & blunt.

Gathered in Anglesia by the Rev. H. Davies
Flowering in June - It has a creeping perennial Root & much branched Sympag downy fibres agreeing with those of *pratensis* whole plant glaucous with tint of purple
Stems 6 to 10 in. high leaves short & straight all the stipules short & blunt. Panicle shaped like those of *Alpina variegata* with purple & glaucous green Cal almost annul. flowers generally 3 connected by a copious, soft web. whose fibres may be seen between them even in their natural situation but become more conspicuous when the florets are pulled asunder. This Web does not exist in *P. alpina* or *Asia*. The only 2 species likely otherwise to be confounded with this. It is found in *P. pratensis* but in less qty.



at L. 12000 J. J. J. J. J.

P O A decumbens.

Decumbent Meadow-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, containing many florets. *Spikelet* rounded at the base. *Cor.* of 2 ovate, pointed, beardless valves.

SPEC. CHAR. Panicle generally simple, condensed, erect. Spikelets ovate, four-flowered, the length of the calyx. Stipulæ formed of little hairs.

SYN. *Poa decumbens.* *With.* 147. *Sm. Fl. Brit.* 107. *Hull.* 23.

Festuca decumbens. *Linn. Sp. Pl.* 110. *Huds.* 47.

Relh. 43. *Sibth.* 46. *Abbot.* 22. *Dicks. H. Sicc. fasc.* 11. 3.

Gramen avenaceum parvum procumbens, paniculis non aristatis. *Raii Syn.* 408.

SPONGY bogs on barren sandy or mountainous ground produce this grass frequently. It flowers in July and is perennial.

The whole plant is remarkably harsh and rigid, lying close to the ground, except when in flower. The roots creep, though to no great extent. The stem is about a foot long, jointed and bent, smooth, leafy. Leaves linear, straight, horizontal, rather glaucous. Their long sheaths closely invest the stem and are hairy (particularly upwards) and striated. The stipula which crowns their summit within is formed of numerous dense hairs. The panicle is zigzag, and consists of but few flowers. Each spikelet is ovate, acute, tumid (especially as it ripens its seeds), smooth, generally purplish. The calyx glumes are about as long as the spikelet, nearly equal, ovate, acute, slightly ribbed, with a rough keel. The florets are more elliptical, blunter, and notched, very smooth, nerved, hairy at their base; their outer glume has in its notch a short intermediate flat tooth, totally different however from the awn of a *Festuca*, so that we readily assent to Dr. Withering's alteration in making this grass a *Poa*. In habit, and structure of some parts, it is, as Linnæus observes, more allied to *Melica*.



1756 M. ussuriensis

B R I Z A media.

Common Quaking-Grass, or Cow-Quakes.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, with many flowers; the little spike two-ranked, its valves heart-shaped, obtuse, the innermost smaller.

SPEC. CHAR. Little spikes ovate. Calyx shorter than the florets, which are about 7 in number.

SYN. *Briza media.* *Linn. Sp. Pl.* 103. *Huds. Fl. An.* 38. *With. Bot. Arr.* 92. *Relb. Cant.* 38. *Sibth. Ox.* 43. *Mart. Fl. Rust. t.* 39. *Dicks. H. Sicc. fasc.* 5. 2.

Gramen tremulum. *Raii Syn.* 412.

VERY common in pastures, where, as Professor Martyn observes, it is made into hay with other grasses, but never cultivated alone for any particular purpose. The roots are perennial, and the flowers appear in May.

Root fibrous. Straw upright, from 6 to 18 inches, most commonly about a foot, in height, round, very smooth, with one or two joints near the bottom. Leaves mostly at the root, with one from each joint of the stem as usual in grasses, the sheaths of which last are very long, the stipules very short, blunt, and entire. Branches of the panicle purplish, spreading, the lowermost in pairs, the others alternate, all so extremely slender, and more or less zigzag, that the spikes, which hang drooping from their extremities, tremble at the least breath of air or other cause of agitation; from which circumstance, as well as their elegant form and shining brown colour, they excite the admiration of the most incurious. The calyx is generally of a darker colour than the floral valves, but like them in shape; the florets are about 7, in two ranks, so that the spike is much compressed, and of a broad ovate figure.



July 1st 1796 Published by J^o Southey London.

DACTYLIS glomerata.

Rough Cock's-foot Grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, compressed; one valve larger, and carinated.

SPEC. CHAR. Panicle crowded, leaning one way.

SYN. *Dactylis glomerata.* *Linn. Sp. Pl.* 105. *Huds. Fl. An.* 43. *With. Bot. Arr.* 94. *Relb. Cant.* 39. *Sibth. Ox.* 43.

Gramen asperum. *Raii Syn.* 400.

ONE of the most common of all grasses, in pastures, hedges, thickets, &c. remarkable for thriving under the shade and drippings of trees, and thence sometimes (as Dr. Withering mentions) called Orchard Grass. It is a harsh coarse grass, not eaten by cows (according to the experiments of Linnæus), nor much preferred by other domestic animals.

Root strong and perennial. Leaves dark green, carinated, harsh and rough. Stipula bifid, or torn. Stems two feet high, rough, leafy, terminating in a sort of pyramidal branched panicle, consisting of several thick tufts of flowers all leaning one way, by which it may be readily distinguished. The lower branches of the panicle are much divaricated, and sometimes compound. Antheræ reddish, hanging out of the flower on long filaments. Each calyx contains three, four, or more florets, with both petals pointed, and one shortly awned. It flowers from June to August.

Pactylis 10

DECEMBER

1862

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Iris sibirica L. f. *Iris sibirica* L.

D A C T Y L I S stricta.

Smooth Cock's-foot Grass.

T R I A N D R I A Digynia.

GEN. CHAR. *Cal.* of 2 valves, compressed; one valve larger and carinated.

SPEC. CHAR. Spikes 2 or 3, erect, smooth; flowers leaning one way, downy.

SYN. *Dactylis stricta.* Solander in *Ait. Hort. Kew.* v. 1. 104.

D. cynosuroides. Hudf. *Fl. An.* 43. *With. Bot. Arr.* 93.

Spartum effexianum, spica gemina clausa, *Raii Syn.* 393.

FOUND, though rarely, in muddy salt-marshes and about the mouths of rivers on the east side of this kingdom. Our specimens were gathered by T. Woodward and D. E. Davy, Esqrs. between Aldborough and the river's mouth, in August last.

Root perennial, very strong. The whole herb is exceedingly hard and rigid, from 10 to 20 inches high, erect; the straws clothed to the top with alternate, sheathing, striated, pointed leaves, of a dull green, with short jagged stipulæ. Spikes terminal, generally 2, perfectly erect, close pressed together and nearly equal, set with 2 ranks of flowers on one side. The common stalk is angular, a little zigzag, smooth. Glumes of the calyx downy, containing a single floret. Antheræ projecting, pale-purple or brownish. Stigmas feathery, united at the base into a simple style.

Linnaeus received specimens of this grass from Lœffling, gathered in Portugal. He confounded it with his *D. cynosuroides*, which is a native of America, and widely different, growing to a much greater size, and bearing a large panicle of very numerous spikes, whose stalks, as well as the carina of the calyx, are rough with minute spinous teeth, and the flowers are more crowded than in *D. stricta*.



April. 1790 Published by J. Bowerby.

CYNOSURUS cristatus.

Crested Dog's-tail Grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 husks, containing few florets.

Partial Receptacle unilateral, leafy.

SPEC. CHAR. Bractææ pinnatifid.

SYN. *Cynosurus cristatus.* *Linn. Sp. Pl.* 105. *Huds. Fl.*

An. 59. *With. Bot. Arr.* 95. *Relh. Cant.* 39.

Sibth. Ox. 52. *Leers Herb.* 49. *t.* 7. *f.* 4.

Gramen cristatum. *Raii Syn.* 398.

THIS grass is equally common with the preceding, making a principal part of the turf on high gravelly or chalky soils, in parks, lawns and sheep-walks, and affords good nourishment to those animals as well as to deer.

The root is tufted, perennial, with long simple fibres. Stems very erect, from a foot to 18 inches high, rigid, round, smooth, clothed about the lower part with shortish, alternate, palish leaves. Stipulæ short. Spike green, erect, about 2 inches long, composed of numerous spikelets, all leaning one way, on a zigzag stalk. Each spikelet is accompanied by another abortive one, which Linnæus calls the bractææ, resembling a small double-toothed comb. These remain long upon the stalk, turning of a yellowish colour in decay. Ray mentions a variety with 4 rows of spikelets. This *Cynosurus* flowers in June or July.

Lyonnais, II

1780

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Arthur

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Done

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Down

1892

Chittenden

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Common

proba

1892

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42

Festuca ovina Sheep Fescue Grass

Trautvetteria distachya

Genl. Cal of 2 valves - Spikes
oblong somewhat cylindrical with sharp
pointed glumes -

Sp. Cal. Panicle pointing one way
close. Florets roundish smooth at
their base - Straw square - leaves bristle
shaped rough -

A common grass in dry exposed Pastures
flowering in June & supported by hemlock,
stinging nettle & others to be a peculiarly ex-
cellent food for sheep - Those who have re-
commended it for a crop of Hay have
probably mistaken it for *F. ovina* which
which produces much more by culture &
yields a far greater produce - The
square stem of *F. ovina* distinguishes it at
once without any other mark - The Micro-
scopic Botanist may refer to the perfectly
smooth edged inner valve of the Corolla
which in *F. ovina* is finely fringed



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Festuca durivirens. Hard Fescue Grass

Triandria Digynia

Gen. Ch. Cal. of 2 valves. Spikes oblong somewhat cylindrical with sharp pointed glumes

Spec. Ch. Panicle pointing one way oblong branched. Flowers about 6. nearly cylindrical awned. Stem leaves flat Root fibrous.

A common grass every where about Meadows Pastures & waste grounds flowering about Midsummer

Root fibrous perennial. Herbage of a full darkish green. Stems a foot or more in height erect leafy. Leaves upright roughish the lower ones slender right acute compressed striated the base completely sheathing the stem with scarcely any perceptible stipula Upper leaves broader & flat. Panicle erect a little zigzag alternately branched. The branches all leaning one way the lower ones subdivi-

des & more spreading. Flower stalks all
by angular & rough. Spikelets at first cylind
but by the florets spreading the become flat
often reddish. Cal. of 2 unequal carinated &
pointed husks. florets from 4 to 6 the upper
generally abortive all fixed a little remotely
an angular zigzag stalk. Outer husk of the cor
strongly awned the inner one smaller more a
cate & beardless - the angles of both are muc
ciliated & strong & sometimes the outer husk
well as the Cal. is all over clothed with soft
pubescence which makes the Char. of *Simna*
F. Dumetorum.

The intelligent Mr Suayne mentions
this as a valuable grass springing early be
acceptable to all kinds of cattle growing in
good meadows & Pastures & yielding a good crop

Febru

12



Festuca Calamaria - Reed like Tussock grass

Freundtia Saggina

Spikes Cal of 2 Nerves. Spikes along
somewhat cylindrical 2 ranked with sharp
pointed glumes

Spikes Panicle pointing 1 way erect much
branched. Florets oblong angular beardless
leaves sheath shaped sheathed

A native of moor rather alpine Woods
It is not peculiar to Scotland - The Rev
Mr Bull found it in a Wood in Ireland &
Mr Mosley of Glasgampston in a Wood near
his residence. It flowers in July & is
perennial. Root fibrous forming large tufts
stem erect a yard high or more Reed like
round smooth leafy with purplish joints
leaves upright broad flat long-pointed
sheathed rougher at the Edge with sheaths
about their own length rougher but not
having stipules short notched. Panicle
much branched very various in density
according to its meeting with more or less

shelter. Spicules small often tinged with
purple or brown—roughish under a micros-
cope. Cal. narrow & pointed. Florets, 3, 4
or 5 linear oblong a little decliv. their outer
value longer & keeled their inner with 2
ribs often folded together so as to look like
a simple keel. which gives them a peculiar
appearance & has caused some inaccuracy
in the des.ⁿ in Fl. Bor.: "which it is our
duty to point out



Bromus erectus - Upright Brome Grass

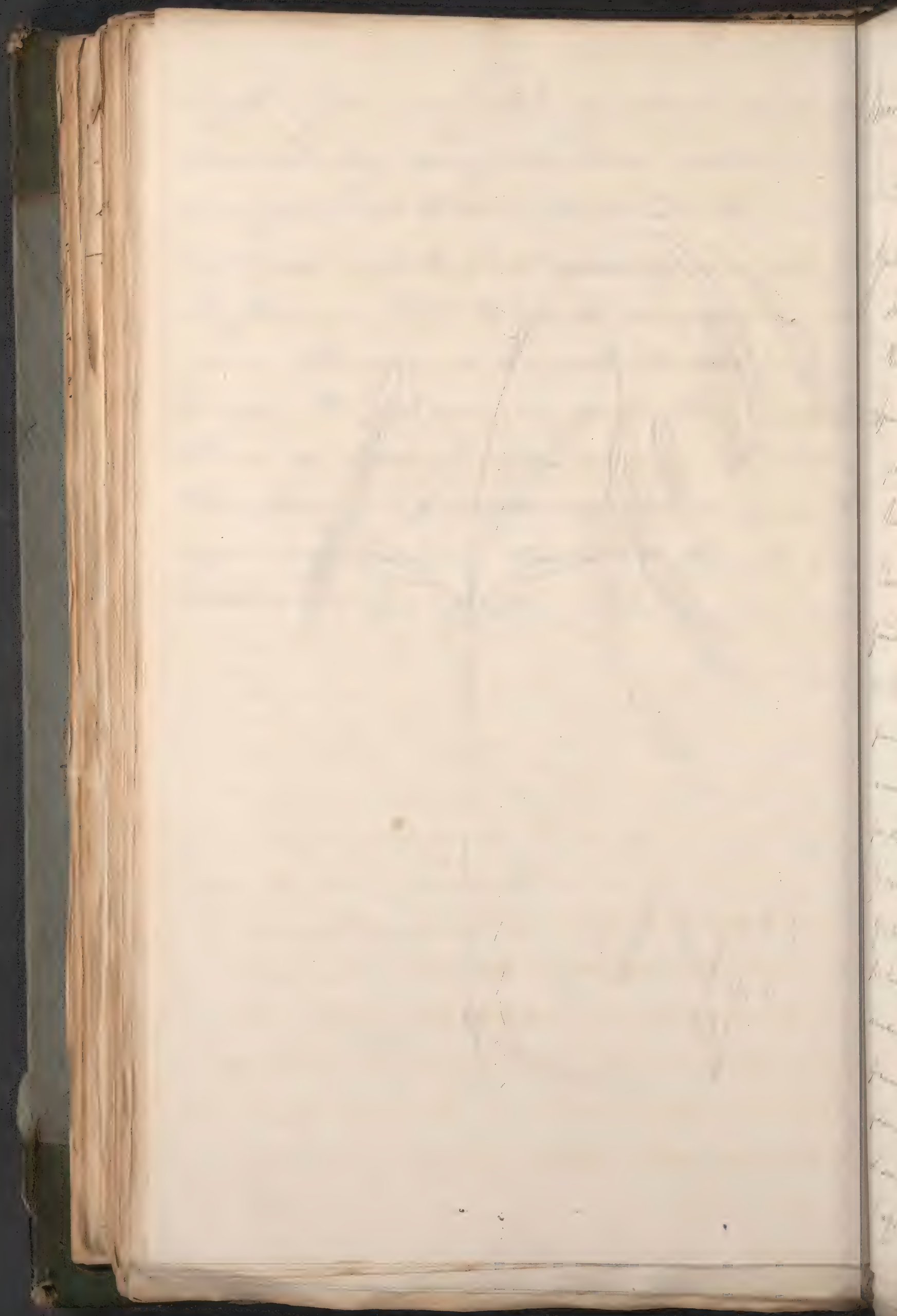
Triandria Bigynia

an. Ch. Cal. of 2 valves. Spikelet oblong somewhat cylindrical 2 ranked. Awn from below the Top. Inner husk fringed

her. Ch. Panicle erect a little branched. Florets numerous slender. Radical leaves very narrow fringed with white scattered hairs

This Grass prefers a sand on a chalky soil. Root perennial by which this *Bromus* differs from *arvensis* with which it has been confounded. Straw 2 or 3 feet high leafy upright downy sometimes a little jointed. radical leaves numerous harsh upright narrow fringed unequally with long white scattered hairs pointing upwards. The stem leaves are much broader & have fewer or none of these hairs. Panicle erect & are all its branches. Most of which are simple one or two only being sometimes branched. all are rough & various in

length. Glumes compressed carinated purplish, sh
sometimes very downy sometimes naked but w
a roughish keel & awn which last tho of course
continuation of the keel actually separates fr
the glume a little below its membranous l
mits. The inner valve of the Corolla is fine
fringed tho' less conspicuously than in Mon
Bromi at least the annual ones. The Cal. c
tains from 7 to 9 or more florets being in the
respect very various. Awn shorter than the husk
Anthera of a fine Saffron colour



Bromus sterilis Barren Brome Grass

(*Triandria Digynia*)

Leath — Cal of 2 leaves. Spikelets
oblong. 2 ranked. Awn from below
the top. Inner husk fringed.

Spic. Ch. — Panicle drooping mostly sim-
ple. Florets lanceolate ribbed furrowed
leaves awnless.

One of the most frequent grasses in waste
ground about the borders of fields & flowering
in June & July. The elegantly pendent
panicle renders it conspicuous but this
ornamental quality will rarely compensate
for its inutilty to the agriculturist which
by common consent has procured it the name
of *sterilis*. In fact its leaves tho' suitable
for cattle are too few & too short lived to
render it of any use & the harsh stems &
panicle will scarcely be touched while other
food is within reach. The root is annual
& small stem 2 feet high erect jointed
leafy. Leaves spreading flat shortish clothed

with short down. Stipula torn. Panicle
large slender spreading rough its branches
very seldom subdivided. Spikelets pendulous
lanceolate compressed brownish green of 6
or 8 lanceolate keels rough long bearded
florets each marked with 7 or 8 ribs Sta-
mina 3 to which it is distinguished with
certainty from *B. diandrus*. t 1006. In
both these species the styles grow laterally
out of the German



Rose
G.
Jane
Helen
Evelyn
Louise
Florence
Mary
as a
Rose
Lucy
a letter
Miss
and
and
Mary
at home
please
before
after

Bromus arvensis - Field Broom-crap
Tricandria Lycopodium

Spikes Cal of 2 valves. Spikes
 oblong 2 ranked. Awn from below the
 top. inner husk fringed

Spikes Panicle spreading its stalks
 branched. Spikes lanceolate about 8
 flowered. Florets imbricated elliptical
 depressed smoothish

Much uncertainty has attended this grass
 as a native of Britain -

Root annual. Stem single 2 or 3 feet high
 leafy striated smooth - Leaves bright green
 a little downy on each side their sheath,
 thickly clothed with short hairs pointing
 downwards - Stipula short - Panicle
 erect many flowered, its branches whorled
 many of them compound & subdivided
 at least in luxuriant specimens for the
 plant often grows much larger than that now
 before us - Spikes lanceolate & erect at first
 afterwards more ovate & drooping. formed

of about 8 or more imbricated elliptical
depressed (not cylindrical or discoid) flowers
variegated with green purple & white but little
downy & remarkable for a glossy appearance
occasionally observable in other Bromi - the
anthers are occasionally Purple or yellow



Bromus Racemosus. Smooth Bromus of
(*Grandis* L.)

Grass

Speltz Panicle nearly erect spreading
simple. Spikelets, oval of about 6 embri-
cated depressed ribbed smooth florets

There is reason to presume that this species
of *Bromus* has long overlooked by Botanists
is not extremely rare - Since its char-
acter has been more amply explained we have
recd. it from various quarters - It occurs
mostly in arable land flowering in June
It is an annual Plant like the *B. mollis*
with which it much agrees in general ha-
bit except being rather more slender
The hairs which cloth the sheaths of the
leaves generally point downwards it is how-
ever best known by the following marks

The Panicle is simple for even in the most
luxuriant specimens it is hard to find a bran-
ched or divided flower stalk the spikelets
scarcely ever consist of more than 6 florets

It are always perfectly smooth & shining
elegantly variegated with green & white
& having less prominent ribs than those of
B. mollis. The awns are about the length
of the glumes as in the last species —

Handwritten notes on the left margin, including "Handy", "dit", "Handy", "Handy", and "Handy".

Boomer 12

Faint, illegible handwritten text covering the main body of the page, possibly a list or journal entry.



Bromus mollis - Soft Bromus Grass

Dreandria alymni

Grass Cal of 2 Valves Spikes
oblong 2 ranked down from below
the top. Inner husk fringed.

Spikes Panicle erect close com-
pound spikes ovate. Florets imbr-
icated depressed ribbed downy

Very common & abundant in pastures
also on waste ground. Starts in flowering
early in June when it makes a consi-
derable part of the general crops of hay.

Root annual of a few simple fibres
Stem erect about 2 feet high simple
generally smooth sometimes hairy the
joints swelling & often thickly clothed
with hairs. Leaves & their sheaths thickly
covered with soft hoary pubescence.

Stipules bluntly pointed. Panicle 2
or 3 in. long erect close a little spread-
ing when in flower. its branches half
whorled the uppermost simple some of the
rest always more or less subdivided

various in length all angular & downy
Spikelets mostly upright ovate acute rather
turgid - Florets from 7 to 10 rarely fewer
closely imbricated elliptical concave &
depressed not cylindrical. Their outer
downy marked with 7 or 9 strong green
ribs & bearing a rough awn about their
own length a little below their summit
inner glumes membranous with a thick
green fringed edge - Seed elliptical la-
ceolate & nearly flat - In a staminate
condition the panicle of course becomes
nearly simple consisting sometimes of
3 or 4 spikelets which constitutes the
panicle of maize this frequent in the same
the above



Bromus diandrus - Upright an^d Brongly

Ischaemum Sisyria

Gen let Cal. of 2 valves Spikelts ob-
long 2 ranked down from below the top
inner husk fringed

Sp. 11 Panicle upright spreading scarcely
subdivided Florets lanceolate ribbed fur-
rowed with only 2 Stamina

Gathered at St Vincent, Rocks Coastal
by the Rev & Mr Hemphill It grows mostly
on barren sandy ground walls & waste places
but not commonly - It differs from *B. str-*
itis in being diandrous lower leaf downy with
an erect more comp act Panicle which tho'
somewhat spreading is never lax nor pendu-
lous - The hue of its Spikelts is also more
frequently purplish The nerves of the glumes
are in general less prominent & the 2 princi-
pal ones more conspicuous on each side stand
in this species peculiarly close together. Root
small & an^d flowers in June. Dr Wethering
was persuaded that this grass sown in the Autumn
might afford a good crop of early fodder in Spring



Handwritten text, likely a species name or description, partially obscured by the drawing.

BROMUS pinnatus.

Spiked Heath Brome-grass.

TRIANDRIA Digynia.

GEN. CHAR. Cal. of 2 valves. Spikelet oblong, 2-ranked.

Awn from below the top. Inner husk fringed.

SPEC. CHAR. Spike simple, erect, two-ranked. Spikelets sessile, roundish. Awns shorter than their husk. Leaves almost naked.

SYN. Bromus pinnatus. Linn. Sp. Pl. 115. Tr. of
• Linn. Soc. v. 4. 301. Sm. Fl. Brit. 137. Hudf.
ed. 1. 41. Hull. 26.

Festuca pinnata. Hudf. 48. Relb. 44. Sibth. 46.

Abbot. 22. Dickf. H. Sicc. fasc. 13. 8.

Gramen spicâ Brizæ majus. Raii Syn. 392.

THIS grass is found on open commons or heaths in a free-stone soil; not unfrequently in Yorkshire, Oxfordshire and Kent, but rarely elsewhere. It is perennial, and flowers in July. Many botanists have united it with the preceding; but its greater smoothness, firmness and rigidity, indeed its whole aspect, seem to authorize a specific distinction.

The root is somewhat creeping. Stem hardly 2 feet high, very smooth, altogether erect, and scarcely tapering in the upper part. Leaves very rarely clothed with a few hairs on the upper side. Sheaths quite smooth and polished. Spikelets in 2 ranks, and not leaning to one side, long, linear, a little downy. Calyx-glumes rather elliptical, many-nerved. Florets more numerous than in *B. sylvaticus*, closely imbricated. Awn terminal as in that species, which induced Mr. Hudson and others to refer both to the genus *Festuca*. This awn in the present plant is shorter than its glume; sometimes so short as to be hardly visible. Inner glume very blunt, fringed with strong rigid bristles, not merely downy as in true *Festuca*.—This grass is even less fit for the food of cattle than the last.



BROMUS fylvaticus.

Slender Wood Brome-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves. *Spikelet* oblong, 2-ranked. *Awn* from below the top. *Inner husk* fringed.

SPEC. CHAR. Spike simple, drooping, leaning one way. Spikelets sessile, roundish. Awns longer than their husk. Leaves hairy.

SYN. *Bromus fylvaticus.* *Tr. of Linn. Soc.* v. 4. 300. *Sm. Fl. Brit.* 136. *Hull.* 26.

Festuca fylvatica. *Huds. ed.* 1. 38. *With.* 158. *Relb.* 44. *Sibth.* 46. *Mart. Fl. Rust. t.* 114. *Dickf. H. Sicc. fasc.* 13. 9.

Gramen avenaceum dumetorum spicatum. *Raii Syn.* 394.

FREQUENT in copses and thickets by the sides of shady lanes, more especially on a gravelly or sandy soil, flowering in July, when its slender form, rising above the surrounding herbage, renders it conspicuous. It becomes still more so in the latter part of summer by assuming a yellowish or tawny hue, especially in the lower leaves. It is of no agricultural use.

The root is fibrous, tufted, perennial. Stem 2 feet or more in height, round, leafy, smoothish, tapering, very slender and a little drooping in the upper part. Leaves spreading, flat, pointed, a little rigid, rough, ribbed, more or less hairy, bright green. Sheaths straight, close, hairy. Stipula short, blunt, torn. Spike simple, drooping, zigzag, formed of 6 or 7 alternate, sessile, cylindrical, linear-lanceolate spikelets, all inclining towards one side, generally downy. Glumes of the calyx unequal, tipped with short awns. Florets from 6 to 9, imbricated, at length a little spreading and somewhat cylindrical, in the upper part strongly ribbed and rough. Awn terminal, rough, generally much longer than the glume. Inner glume blunt, fringed with rigid bristles, on which I am persuaded the essential character of *Bromus* depends more than on the insertion of the awn.

Summa 11



Avena flavescens - Yellow Oatgrass
Trandria Lycopodia

Speltz Cal. of 2 Nerves cont. several
 florets. Outer Nerve of the Cor. bearing
 a twisted down on its back

Speltz Panicle much branched loose
 Cal unequal containing about 3 florets
 Rec. hairy. leaves flat a little downy

Common in Chalky or Limestone Countries
 Sometimes on dry sandy soils where the
 shining Yellow of the panicle is seen in its
 greatest perfection. Root creeping espe-
 cially when luxuriant. Stems erect cur-
 ved at the bottom slender about a foot
 high leafy with about 3 joints. Leaves nar-
 row taper pointed more or less downy espe-
 cially their sheaths & the joints of the stem
 are often furnished underneath with a cir-
 cle of deflexed hairs. Sepals broadly short
 Panicle spreading many flowered sometimes
 a little drooping its branches capillary rough

Fig. 1. The ultimate subdivision, alternate
spikelets small spreading shining with
yellow & a pale tinge of red compound of 2 or
rarely 4 florets. Cal. Valves acute with a
rough keel - one of them twice as large as the
other & having a pair of lateral nerves.
Outer Petal much like the larger Valve
of the Cal. but bearing below its summit
a longish rough down twisted when dry
Common Rep. of the flowers broadly
We can confirm Mr Curtis' opinion of
the value of this grass as being highly
agreeable to cattle & forming a great share
of the best upland Pasturage in our dry
countries



May 1797 Published by J. Sowerby London.

ARUNDO Phragmites.

Common Reed.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves. *Florets* surrounded with long down.

SPEC. CHAR. Calyx containing five florets. Panicle loose.

SYN. Arundo Phragmites. *Linn. Sp. Pl.* 120. *Huds. Fl. An.* 53. *With. Bot. Arr.* 116. *Relh. Cant.* 51. *Sibth. Ox.* 50.

A. vallatoria. *Raii Syn.* 401.

NOTHING can be more common than the reed here represented, in ditches, ponds, and the margins of rivers, where it flowers in the middle of summer, after which its waving silvery plumes, consisting of long down remaining in the brown husks of the calyx, continue to ornament many a dreary fen throughout the autumn, lifting their heads high above all other herbage, till their dry stalks are cut for thatching or some such use. They are for no purpose more useful, than to make warm sheltered enclosures for a kitchen garden.

The roots are perennial, running far into the mud. Straws annual, about 6 feet high, erect, round, jointed, very smooth, leafy. Leaves alternate, long, lanceolate, tapering to a fine point, striated, smoother and paler beneath, their edges a little rough; their bases sheathing the straw and each other, and crowned with an extremely short jagged stipula, accompanied on each side by a small portion of silky down. Panicle nearly erect when in flower, purplish, but after impregnation its branches become more loose and drooping. The calyx-valves are unequal, containing about five flowers (sometimes fewer) placed in two ranks upon a small stalk. Corolla of two valves, one of them very long and pointed, to the base of which is attached externally a tuft of long soft slender hairs, which are lengthened after flowering, and, spreading in every direction, give the feathery appearance above mentioned. The stamina are very slender. Styles reflexed, with thick tufted stigmas.



7816 406 by P. Sowerby London

A R U N D O epigejos.

Wood Reed.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves. *Florets* surrounded with long down.

SPEC. CHAR. Calyx single-flowered, longer than the corolla. Panicle erect; branches spreading. Flowers crowded, leaning one way. Leaves lanceolate.

SYN. *Arundo epigejos.* Linn. *Sp. Pl.* 120.

A. Calamagrostis. Hudf. *Fl. An.* 54. *With. Bot. Arr.* 117. *Relb. Cant.* 52. *Lightf. Scot.* 106.

Gramen arundinaceum, panicula molli spadicea, majus. Raii *Syn.* 401. *Scheuchz. Prod. tab.* 5.

OUR specimens were gathered last July in ditches near Kennington. This species grows in wet thickets and the swampy parts of woods, not, like the preceding, in fens, nor is it near so common as that. It is very rarely found in Scotland, but we are certain of its being what Mr. Lightfoot intended, though he quotes *Flo. Dan. t.* 280, which is the true *Calamagrostis*. Linnæus having misquoted Scheuchzer under both these species, seems to have led Mr. Hudson, and from him all other British writers, to mistake both, though they have in some measure corrected the synonyms. The Herbarium of Linnæus (indeed a careful attention to his writings is sufficient without it) has enabled us to clear up all this confusion, as will farther appear when we describe *A. Calamagrostis* in the next plate.

The plant now before us is almost as tall and strong as the Common Reed. The straw upright, leafy, sometimes branched a little at the bottom, though Mr. Hudson remarks the contrary. Leaves broad, tapering to a fine point, somewhat glaucous; edges rough, and sometimes the whole under surface is so, but that appears to be a variable circumstance. Stipula much more considerable than in *A. Phragmites*. Branches of the panicle spreading; divided into dense clusters of flowers leaning one way, well compared by Dr. Stokes to *Dactylis glomerata*. Calyx-valves, as well as the petals, nearly equal. Down shorter than in *A. Phragmites*.



May 1797. Bot. shed by J. J. Lowenby, London

ARUNDO Calamagrostis.

Small Reed.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves. *Florets* surrounded with long down.

SPEC. CHAR. Calyx single-flowered, longer than the corolla. Panicle erect. Flowers scattered. Leaves linear.

SYN. Arundo Calamagrostis. *Linn. Sp. Pl.* 121. *Fl. Dan.* t. 280.

A. epigejos. *Huds. Fl. An.* 54. *With. Bot. Arr.* 117. *Relb. Cant.* 51.

Calamagrostis minor, glumis ruffis et viridibus. *Raii Syn.* 401.

THIS is a rare plant compared with the preceding, nor has it been found in Scotland at all. It grows in moist woods and hedges, flowering in July. We received specimens from Cambridgehire, by favour of Rev. Mr. Hemsted, and have others from Norfolk and Lincolnshire.

Roots perennial, as in both the preceding; fibrous, not creeping. Straws several, 3 feet or more in height, round, polished, leafy, much more slender than in the last. Linnæus describes it as branched, and his specimens, undoubtedly the same species with ours, are so. Leaves erect, with long sheathing bases, linear, narrow, not a quarter so broad as those of *A. epigejos*, pointed, not quite smooth beneath, and sometimes a little hairy above. Stipula pointed, sometimes divided. Panicle erect, and its branches but little spreading till the seeds are ripe. Flowers erect, scattered, on capillary flower-stalks, not clustered nor leaning one way. Calyx-valves tapering, nearly equal, longer than those of the corolla, which are unequal and cloven. Down scarcely so long as the calyx.

This is undoubtedly the *A. Calamagrostis* which Linnæus described in both editions of *Sp. Plant.* as appears by authentic specimens; neither can there be any doubt of its being No. 42 of *Flora Lapponica*, though, as he tells us in that work, his original specimens gathered in Lapland were lost by accident in going down a river of that country. The characters above given sufficiently distinguish it from the *Arundo* in the last plate.

Records

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Root
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Arundo arenaria - Sea Reed or Marram

Triandra ligynia

Gen. Ch. Cal of 2 valves - florets sur-
rounded with long down

Spec. Ch. Cal. single flowered longer than
the Cor. Panicle spiked. flowers erect
beardless. Leaves involute pungent

Frequent on the Sea shores in loose
blowing sand to which it seems inter-
ded by nature to give stability & thus to
raise a bulwark against the encroach-
ment of the waves. - On this account its
growth is much encouraged on the Coasts of
Norfolk. where it is confounded with *E-*
lymus arenarius & even *Carex arenaria*
under the name of Marram & acts of Pa-
liament have been made for its preser-
vation - it flowers in July

Root perennial creeping to a great ex-
tent jointed. Stem nearly erect 3 feet
high hard round smooth jointed hoary
leaves a little spreading rigid sharp pointed
glaucous smooth their edges rolled in

furrowed above very smooth beneath as
well as their sheaths - Stipula long &
lanceolate pointed torn. Panicle erect &
resembling a spike as the branches are short
& close pressed - flowers greenish white
cal. glumes a little unequal lanceolate
compressed keels slightly 3 nerved the
keels rough. flower solitary with short
hairs at the base its glumes like the cal
but shorter. anthers purple. Germen in
verted with a bilobed membranous re-
tang as in most grapes - stigma long &
feathery -

Solomon - 15th



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LOLIUM perenne.

*Perennial Darnel, or Rye-grass.**TRIANDRIA Digynia.*GEN. CHAR. *Cal.* of one husk, fixed, many-flowered.

SPEC. CHAR. Flowers beardless. The little spikes compressed, longer than the calyx.

SYN. *Lolium perenne.* *Linn. Sp. Pl.* 122. *Huds. Fl. An.* 55. *With. Bot. Arr.* 120. *Relb. Cant.* 52. *Sibth. Ox.* 50. *Leers Herb.* 47. *t.* 12. *f.* 1.*Gramen loliaceum angustiore folio et spica. Raii Syn.* 395.

THIS very common species of grass is well known to the farmer by the name of Rye-grass, Ray-grass, or Crap. Its agricultural merits were first discovered in Norfolk, and from thence the seeds have been distributed throughout the kingdom, those who bought them little suspecting the plant was already a weed in their own fields. Its chief use is for an early crop of hay upon high or sandy lands. It makes a fine turf; but though the roots are perennial, it does not last many years, except (according to Stillingfleet) the soil be very rich.

Root of a few simple fibres. Stems a foot high, round, smooth, rigid, with swelling purplish joints. Leaves dark green; stipulæ short and entire. Spike two-ranked and compressed, the common stalk zigzag. Husks lanceolate and acute. Antheræ cloven at each end, purple. Stigmas sessile, downy above. Germen roundish. Seed linear.

The spike is sometimes branched in an alternate manner, and more frequently very much condensed into a flat oval form. It flowers in June.



ROTBOLLIA incurvata.

Sea Hard-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* fixed, mostly single-flowered, simple, or divided into 2 parts. *Flowers* ranged alternately on a jointed common stalk.

SPEC. CHAR. Spike round, awl-shaped. Calyx-glume awl-shaped, divided, close pressed to the stalk.

SYN. *Rotbollia incurvata.* *Linn. Suppl.* 114. *Sm. Fl. Brit.* 151. *With.* 169. *Hull.* 29. *Relb. Suppl.* 2. 8. *Aegilops incurvata.* *Linn. Sp. Pl.* 1490. *Huds.* 441. *Gramen parvum marinum, spicâ loliaceâ.* *Raii Syn.* 395.

FOUND on the sea coast and in salt marshes in several parts of the kingdom, flowering in August and September.

Root fibrous, annual. Stems numerous, procumbent in their lower part, branched, jointed and bent, very smooth, leafy. Leaves linear, pointed, recurved, rough on the edges and upper side; their sheaths a little inflated, striated, smooth, crowned by a short blunt stipula. Spikes terminal, solitary, erect, a little curved, cylindrical, slender, very smooth, consisting of many flowers ranged alternately along one common jointed stalk, which is sculptured with a little cavity on one side of each of its joints to receive each flower, and both before and after flowering the cloven valve of the calyx so exactly closes these cavities, as to form almost an uniform surface with the stalk. Calyx striated, beardless, smooth. Corolla of 2 white membranous husks. Germen invested with the usual cloven nectary of grasses. All the flowers are hermaphrodite and fertile. The joints of the flower-stalk, separating, fall to the ground and disperse the seed.

No agricultural use is attributed to this grass.

Prothallia B





July 1. 1797 Published by J. Sowerby London

H O R D E U M pratenſe.

Meadow Barley.

T R I A N D R I A Digynia.

GEN. CHAR. *Calyx* lateral, of 2 valves, containing a ſingle flower, and growing 3 together.

SPEC. CHAR. Lateral flowers abortive, ariſtated. *Calyx*-valves bristle-shaped, rough.

SYN. *Hordeum pratenſe*. *Hudſ. Fl. An.* 56. *With. Bot. Arr.* 126. *Relb. Cant.* 54. *Sibth. Ox.* 51. *Mart. Fl. Ruſt. t.* 108.

H. nodosum. *Linn. Sp. Pl.* 126.

H. murinum β. *ibid.*

Gramen fecalinum. *Ger. em.* 29.* *Raii Syn.* 392.

A VERY common graſs in meadows and paſtures that are a little moiſt, as in the north part of Hyde Park, flowering in June.

Root perennial, fibrous, but often becoming knotty in a ſituation whoſe degree of moiſture is fluctuating, as happens alſo to *Phleum pratenſe*. Straw 18 inches or 2 feet high, erect, ſlender, ſmooth, bearing 3 or 4 leaves, but none near the top. Leaves narrow, pointed, roughiſh, often hairy on the upper ſide, having a long ſheathing ſtriated baſe, brown and contracted at its ſummit, and ſometimes crowned with a minute ſtipula. Spike terminal, erect, thick-ſet with 2 ranks of the ternate flowers. In every cluſter of theſe the middle flower is ſeſſile, and has the parts of fructification perfect; the two lateral ones are elevated on footſtals, and have none, or only barren, organs of fructification; but the glumes of the corolla, as well as the calyx, are bearded in all. The inner valve of the central flower is much ſhorter than the other.

This graſs has ſome reſemblance to the ſtill more common *H. murinum*, but is much more tall and ſlender, and differs alſo in the ſtructure of its flowers. *Vaillant, tab.* 17. *f.* 6. is certainly our *pratenſe*, as quoted by Dr. Withering, and we have aſcertained ours to be the *nodosum* of Linnæus by his herbarium, though he has miſquoted Ray, and deſcribed the lateral flowers as wanting *ariſte*; but that he has corrected in his manuſcripts.

1800
JANUARY 1st
1801

Dear Sir,
I have the honor to acknowledge the receipt of your letter of the 11th inst. in relation to the above mentioned subject. I am sorry to hear that you are not satisfied with the result of the examination. I have, however, no objection to your making such use of the facts as you may think proper. I am, Sir, very respectfully,
Your obedient servant,
J. H. M.

A copy of the report of the committee on the subject of the above mentioned petition, is herewith transmitted to you. I am, Sir, very respectfully,
Your obedient servant,
J. H. M.



Tritium Junceum - Sea Rush

Wheat Grass

Trisetum dasyneuron

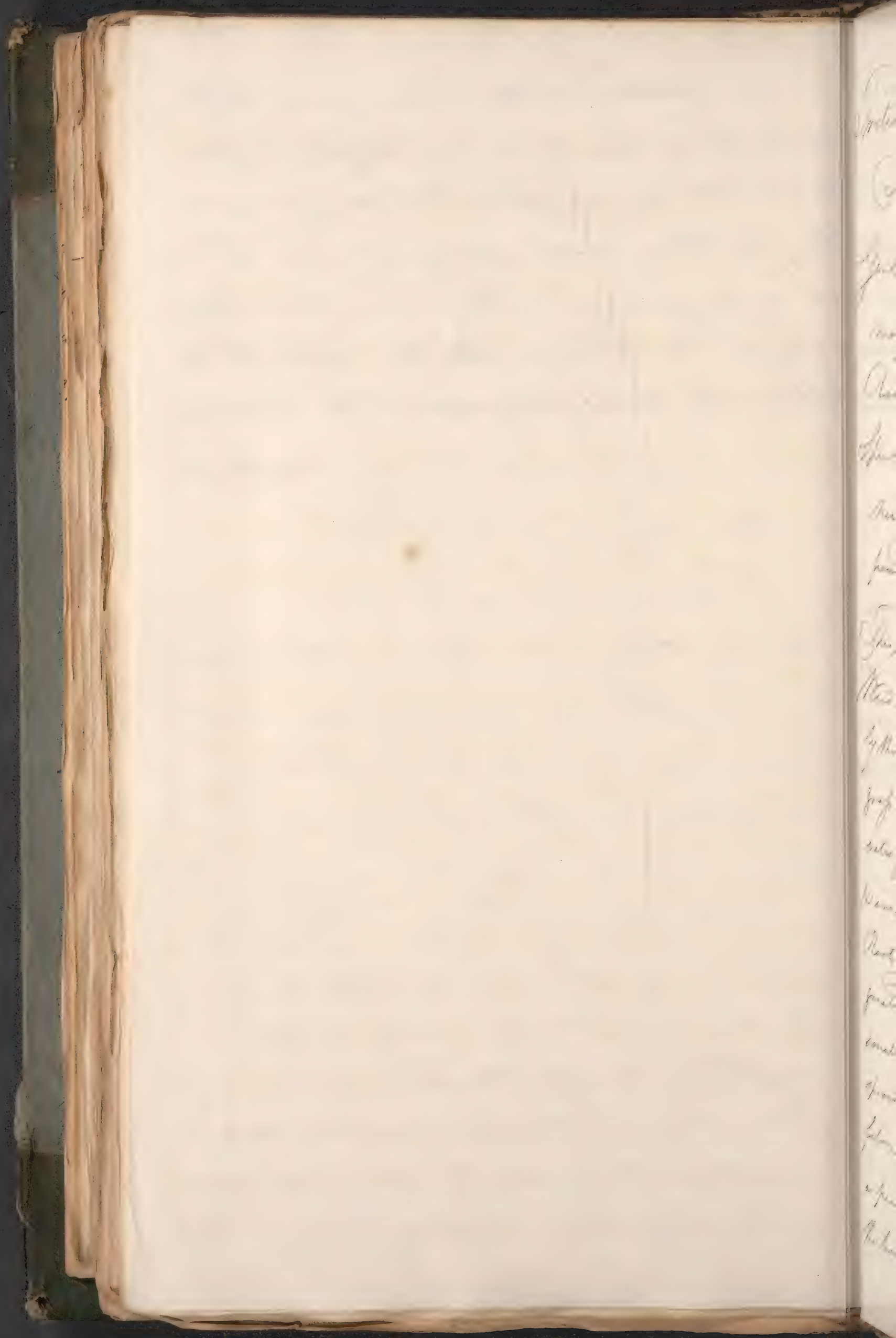
Growth Cal of 2 Nerves solitary many
flowered upon a 3-angled toothed Rachis

Spikes Cal. blunt 5 flowered leaves
rolled inwards sharp pointed -

Not uncommon in the loose sand of
the Sea Coast which its long tough creep-
ing roots throwing out numerous woolly
fibres, help to confine & keep stationary
to which purpose this grass cooperates with
Carex arenaria *Elymus arenarius* & *Poa*
maritima. it flowers in July - the whole
plant is very glaucous the lower part of
the stem is brown of a more or less vivid
violet here & very smooth or shining -
leaves rigid & sharply pungent perfectly
smooth on the back the upper side marked
with numerous longitudinal rough furrows

Stipula very short - Spike solitary erect
straight & stiff much broader in proportion
to its length than that of any other British
I. & consisting of numerous alternate fls
Spikelets of 5 or 6 florets, each perfectly round
& headless the glumes of the Cal. are furrowed
& blunt the interior valves of the Cor. flat
& fringed

Letter 11



Triticum repens — Creeping Wheat grass

Tremandra Aegyptia

Grass — Cal. of 2 valves solitary
Many-flowered upon a zigzag toothed
Rachis.

Spikes — Cal and shape many
nerved & flowered — florets sharp
pointed leaves flat. Root creeping

This most troublesome & pernicious
Weed is but too well known to gardeners
by the name of Couch Quick or dog
grass — It thrives in all kinds of culti-
vated ground flowering from June to Sept.
& insinuating its long creeping perennial
Roots so deeply into the Earth as to be with
great difficulty extirpated — for a very
small pt. of the root left behind soon
sprouts forth into a fresh Crop — the
fibres moreover are downy which seems
a peculiar provision of Nature for seeds
the benefit of such grasses as are far. with

is being found in more than one
very dry or barren situations

Stems slender upright 2 feet high
leaves linear flat spreading often
all directed to 1 side which gives the
grass a picturesque & Indian like ap-
pearance. Sheaths tightly ribbed smooth
crowned with a short stipula. The spike
or ear is 2 or 3 in long flat composed of
numerous spikelets all whose glumes
are sharp pointed & often more or less
bearded. Sometimes the common *Lycopodium*
stalk is hairy. A glaucous variety
common on the coast is often mistaken
for *Juncus* t 814.

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TRITICUM loliaceum.

Spiked Sea Wheat-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of two valves, solitary, alternate, upon a zigzag *rachis*, and containing several obtuse, but pointed, florets.

SPEC. CHAR. Calyx many-flowered. Spike simple, compressed; spiculæ ovate, all leaning one way.

SYN. *Triticum unilaterale*. *Ait. Hort. Kew.* v. 1. 122. but not of Linnæus.

T. maritimum. *With. Bot. Arr.* 130.

Poa loliacea. *Huds. Fl. An.* 43. *With. Bot. Arr.* 91. *Relb. Cant.* 37.

Gramen pumilum Loliaceo simile. *Raii Syn.* 395.

Gr. loliaceum exile durius. *Smith Rel. Rudb.* 13.

GATHERED by the Rev. Mr. Bryant on the northern coast of Norfolk. It occurs on the sandy beach in many parts of England, according to Ray and Hudson, flowering about Midsummer.

The root is annual, consisting of long downy fibres as in most grasses that grow in pure sand. Several short rigid curved stems arise from it, clothed with sheathing leaves, which are involute when dry. A short notched beardless stipula crowns the inside of their sheaths. The general spike is terminal, erect, composed of from 8 or 9 to 12 or 15 erect flowers or spiculæ, placed alternately on each edge of the common *rachis* or stalk, but all directed to one of its flat sides, which is by that means completely hidden, while the other is visible behind. The calyx-husks are lanceolate, equal, reaching to the top of the lowest florets. The partial rachis is zigzag, and exactly like the general one; an argument for the propriety of considering the latter as a part of the fructification, and consequently making the plant a *Triticum*, not a *Poa*. The florets are numerous; their outer valves very blunt, with a sharp point, the inner lanceolate and acute. Nectary a minute concave scale. Stamina and pistilla short.

Linnæus has wonderfully erred in confounding this with his *T. maritimum*, which is a large branched grass with linear spiculæ and acuminate florets, well described in *Sp. Pl.* and which has hitherto been found only in the South of France. *T. unilaterale* is no less distinct, and is well figured by Morison, *vol. 3. sec. 8. t. 2. f. 3.*

Moluccas

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Haleus avenaceus. Cat like soft grape

Isiandra ligynia

Genl Cal of 2 Nerves 2 flowers
1 of the flowers with an imperfect Germen

Cor of 2 Nerves the outer one awned

Spec Cal. glumes unequal smooth

hermaphrodite flower a little elevated

scarcely awned Male with a bent

awn - Root knotty

Frequent in bushy places hedges &
by road sides flowering in June & July

The root is perennial formed generally
of 2 knots or swollen joints one above another
throwing out downy fibres. Stem upright

3 feet high straight unbranched leafy
smooth consisting of about 3 joints.

Leaves of a darkish green spreading flat
rough & rather hoarse. Stipula short ab-
rupt minutely toothed. Panicle upright
the branches $\frac{1}{2}$ whorled & consequently
leaning 1 way as in many grapes. The

branches rough & mostly subdivided —
Cal. shorter than the Cor. & formed of 2 unequal
sharp Valves rough on the keel. Male flower
opposite generally furnished with the rudiment
of a germen & always conspicuous by arising
the hermaphrodite flower stands on a small
footstalk & its awn is very minute almost
terminal scarcely visible — Anthers purple
pendulous — This group has certainly a
great affinity to some species of *Quercus*
but the small number of its flowers & of
their germen being abortive justify its removal
to *Holcus* with which it agrees suffici-
ently in other respects.



Q. 101. 2

Gentiana verna L. f. Aug. 1791.

HOLOSTEUM umbellatum.

Umbelliferous Chickweed.

TRIANDRIA Trigynia.

GEN. CHAR. *Cal.* five-leaved. *Cor.* of five petals.
Capsule one-celled, nearly cylindrical, bursting at the top.

SPEC. CHAR. Flowers in umbels.

SYN. *Holosteum umbellatum.* *Linn. Sp. Pl.* 130.
With. Bot. Arr. 132. *Rose's Elements (Appendix)*,
 445. t. 2. f. 4.

Cerastium umbellatum. *Huds. Fl. An.* 201.

THIS plant was first discovered in England by Mr. John Pitchford, a most accurate and indefatigable botanist, who found it in the spring of 1765, on the walls of Norwich. We are informed it was a long time before this gentleman's discovery met with any credit, some of the first English botanists mistaking this plant for *Cerastium femidecandrium*. Mr. Rose however described and figured it, with its proper synonyms, in his *Elements of Botany*, published in 1775; a work which has eminently contributed to explain and recommend the system and principles of Linnæus in this country. Soon afterwards Mr. Hudson admitted it into the second edition of his *Flora*, under the genus of *Cerastium*, with which it agrees in habit, and to which the number of its stamina and styles are said often nearly to approach. We have not however found the petals so regularly bifid as they are in *Cerastium*; nor have we seen more than three stamina, and as many styles, in each flower; though it must be confessed we have found the capsules with five valves. Content with delineating every part as it occurred to us, we leave the matter to the decision of future observers.

The root is fibrous and annual; the whole plant a little glaucous, and remarkably smooth, except some glandular hairs on the stem, at a little distance from the flowers. The petals are occasionally white or reddish, and irregularly notched at the top. The flower stalks are variously divaricated at different stages of their growth. This specimen came from Bury.

Holstein 61

Polycarpus 6 32 34

Polycarpus



Polycarpon tetraphyllum. Four leaved Allseed
Treandria Eryynia

Leath — Cal 5 leaved. Petals 5 ovate
 minute. Caps. of 1 cell & 3 valves —
 seeds numerous

Spill —

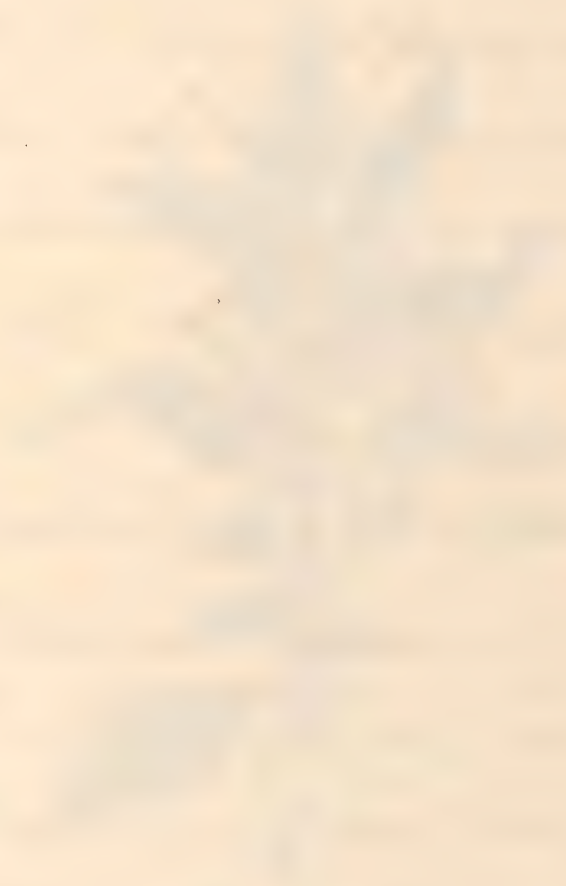
Gathered at Weymouth flowering in
 the latter part of the Summer

Root small annual. Stem much bran-
 ched & spreading flat on the ground leafy
 terminating in numerous forked panicles
 leaves opposite obovate entire smooth a
 little fleshy. in the lower part of the stem
 crossing each other in opposite pairs. Stipules
 & bracts numerous white pointed.

Flowers small greenish white. Petals
 shorter than the cal. blunt. Fruit of 3 ovate
 or lanceolate concave pointed valves —

This genus belongs to the same natural
 Order as *Stellaria Crastium* &c

Penitencia 5





Paricloria officinalis - Pelletory of the Wall

Helianthus Monogynus

Yewth Cal 4 deep inf - Cor - 0. Stamens
cluster - Seed 1 clothed with the lengthened Cal.

Some flowers female only whose Cal. is unchange

Spec. Ch Leaves lanceolate ovate with
out lateral Ribs at the base Segments of
the involucre ovate - Stem ascending

In the habit of Rubus & all Walls in
sheltered places for it is more impatient of
cold than many of our Wild Plants & its juv
enile stems perish at the first attack of frost

The flowers are abundant from June to the
End of Autumn - Root perennial

Stem bushy ascending spreading angular
leafy smooth very shining & generally red

Leaves alternate on stalks or a lengthened or
short ovate figure - obliquely twisted entire
a little hairy pale beneath the lateral

veins all springing from the main rib con-
siderably above the base of the leaf in which

this differs from some foreign species - flowers

axillary - Each involucre cut into 7 ovate

segments containing 3 flowers all producing per-
fect seed. The central one having no stamens
is impregnated by its neighbors — Stamens are
strongly jointed or wrinkled starting back & elastic
by when once touched & so discharging the Pollen
with great force — Stigma pericelled — Seed oval
smooth shining invested with the 4 cleft calyx
which in the 2 lateral blossoms is remarkably
lengthened out after flowering —

This is reckoned among the emollient
herbs by writers on the Materia Medica &
indeed is of a mucilaginous quality tho'
inferior in that respect to the Mallow Tribes

Depression 1

Dipsacus sylvestris Wild. Fenzl

Sitandria monogyne

Gen. Ch. Gen. Cal. of many leaves par-
tial sup. of 1 leaf Rec. chaffy. Sep.
crown cup shaped

Spec. Ch. Leaves opposite serrated
Scales of the Rec.² striat. Gen. Calyx
inflexed longer than the head of flowers

Frequent by Road sides & on the
banks of ditches flowering in July
Root biennial — We know of no use
to which this plant can be applied — Its
heads are sometimes mixed by accident
or fraud among parcels of the Manured
T. but for want of the hooked Scales which
characterize that species are entirely use-
less for dressing cloth



Dipsacis pilosa — Small Travel

Tetrandria Monogynia

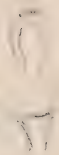
Genl — General Cal of many leaves
partial sup of leaf — Rec cheffy
Seed crown cup shaped

Spentl — leaves on foot stalks with
an appendage at each side — Genl Cal
reflex equal in length to the head of
flowers —

In moist shady waste ground on a
calcareous soil the small Travel or
Shepherd's Staff sometimes occurs, but is
far from being a general Plant. — it flowers
in Aug & Sept — Root spindle shaped
biennial — Stem 3 or 4 feet high erect,
branched spreading angular very rough
with ascending hooked prickles — leaves
opposite spreading on foot stalks ovate point
ed serrated accompanied by a pair of
small leaflets at their base — Flowers
white in ^{ground} ~~long~~ terminal long stalked heads
Common Cal of several equal reflex

lanceolate pointed leaves fringed with
hairs—as are also the white stail scales
that separate the flowers—Cor—funnel
shaped irregularly 5 lobed hairy—Stamens
twice as long as the Cor—with purple an-
thers—Crown of the buds fringed

This is too rare a Plant to encourage
the farmer—neither has it been applied
to any useful purpose—



Scabiosa arvensis - Field Scabious

Tetrandria monogynia

Gen. Ch. Gen. Cal. of many leaves

Partial double sup. Rec. chaffy or naked

Spe. Ch. Cor. 4 left radiating leaves
pinnatifid cut. Stem bristly

Common in Pastures but more especially in Corn Fields where it flowers in July - Root perennial long spindle shaped mostly branched - Stem about 1 1/2 ft high branched rough with bristles which rather point downward - Leaves for the most part hairy the radical ones numerous lanceolate serrated more or less as are also the pinnatifid & frequently are upper ones - Branches spreading rather terminated by a solitary flower composed of very numerous tubular 4 left pale purple florets of which the outermost are largest & labiate & give the whole a radiated

Figure - Stamina capillary with flesh col
antheres abortive in the outermost florets
Seed one to each flower quadrangular crown
ed by the permanent partial calyx -
These flowers held over the smoke of a Pipe
of Tobacco in a few minutes become of
a most beautiful green -

Shrub
leaves
larv
-
the Pipe
some of

Cabot's R

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[Faint handwriting visible on the right edge of the page, possibly from the adjacent page.]

Scabiosa succisa — Switz bit Scabious

Tetrandria Monogynia

Gulth Genl Cal of many leaves. partial
obli sup. Recp. chaffy or naked

Gulth Cor. 4 cleft. regular stem leaves
toothed heads of flowers mostly globular

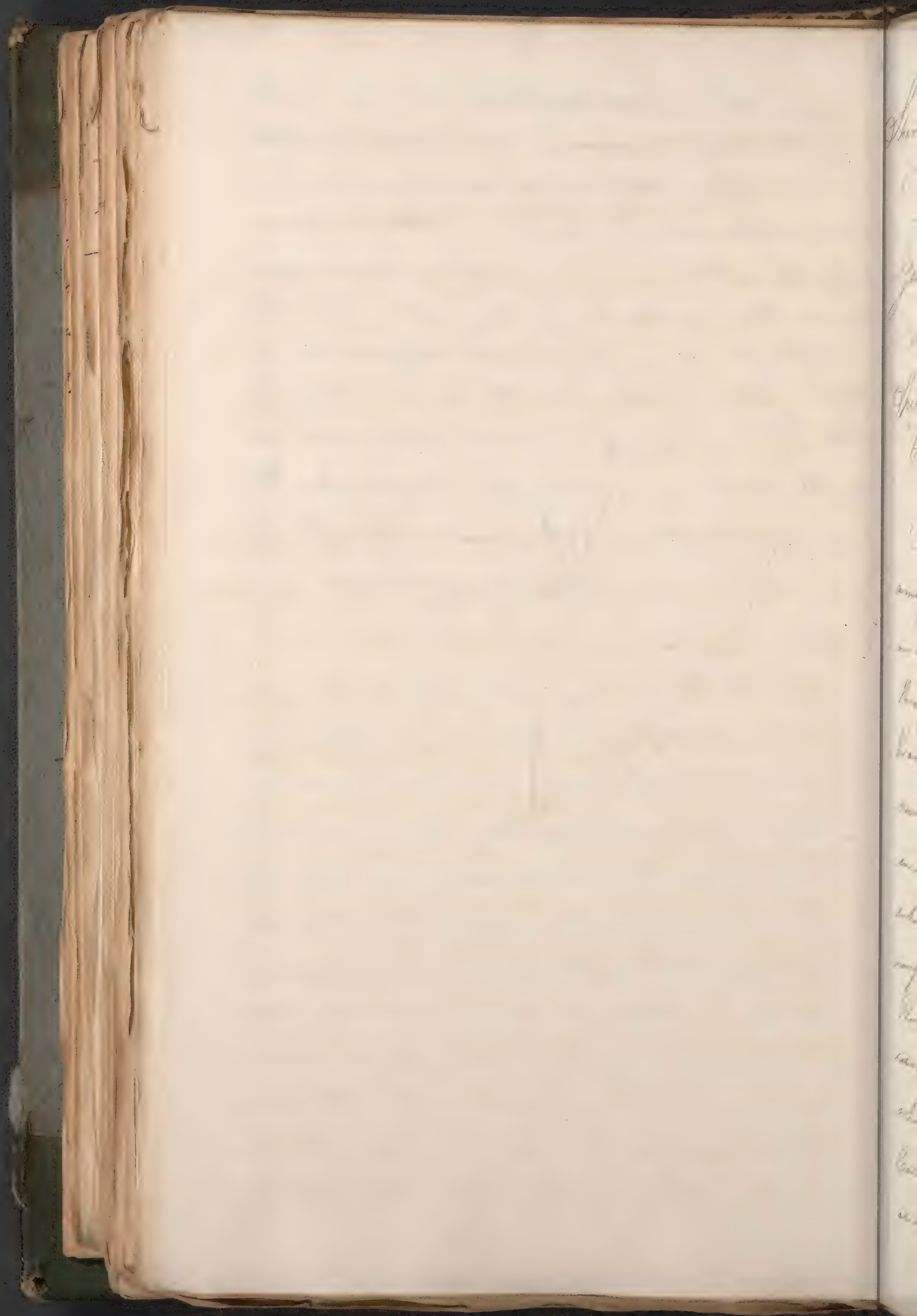
This occurs very frequently & abundantly
in grassy Parkers that are somewhat moist
both on low commons & even on hilly spots
flowering from Aug. to Oct.

Root perenn. oblong abruptly beaken off
at the lower end stem erect round leafy
bearing for the most part 3 or 4 flowers
leaves dark green rather coriaceous hoar
& hairy, the radical ones ovate bluntnish
& entire. a pr. or 2 on the stem often re-
motely toothed the uppermost smaller &
entire. Flowers dark purplish blue often
milk white. in roundish heads standing
on long terminal flower stalks the central
one being the more considerable — The hairs
on these stalks even below the floral leaves

point upwards while all those on the main
stem are reflexed downwards — Cal. hairy
Florets nearly equally 4 cleft — Seeds crowned
with bristles. — The old Americans tell us the
superstitious vulgar imagined that the root
had been bitten off by the devil for envy
of the beneficent its medicinal virtues
might render to mankind — Hence alone
it seems those virtues were preserved & as
the devil & his operations are little thought
of they have fallen into obliuion in
our unbelieving days —

and
may
round
in the
house
any
us
about
the
house
the
house

London 3



Theriacaria arvensis - *Other Theriacaria*

Tetrandria Monogynia

Genl^l Cor of 1 Petal funnel shaped

sup^r - Seds 2 or crowned with 3 teeth

Spec Ch All the leaves whorled flowers
terminal

Frequent in fallow fields & seen
among growing corn more particularly
on a light or gravelly soil flowering
through the summer - Root fibrous

& annual - Herb generally hairy stems
several branched leafy angular spreading
in every direction - leaves about 6 in or
whorl elliptical or obovate pointed entire
roughed on the edges & keel spreading

Flowers in a small terminal umbel
enveloped in the uppermost whorl
which generally consists of 7 or 8 leaves
Cal supr. of 2 trifid permanent leaves
at length forming a crown to the fruit

Cor purplish blue with a slender tube
gradely tapering to the base — & a regu-
lar 4 cleft limb — Stamina slender
shorter than the lobes of the Corolla
Fruit of 2 dry seeds mostly roughish
Dillenius certainly should his Judge-
ment in making this a distinct genus
from all the other Stellate Plants
& it is well characterized by the 2 trifid
leaves of the Cal — a mark which
Leprieu possibly from an error of the
Press seems to have overlooked



ASPERULA odorata.

Sweet Woodruff or Woodroof.

TETRANDRIA Monogynia.

GEN. CHAR. Cor. of one funnel-shaped petal, superior. Seeds 2, globose.

SPEC. CHAR. Leaves eight in a whorl, lanceolate. Tufts of flowers on stalks. Fruit bristly.

SYN. *Asperula odorata.* Linn. *Sp. Pl.* 150. *Sm. Fl. Brit.* 172. *Huds.* 66. *With.* 185. *Hull.* 37. *Relb.* 64. *Sibth.* 57. *Abbot.* 32. *Curt. Lond. fasc.* 4. t. 15. *Dicks. H. Sicc. fasc.* 8. 7.

Asperula. Raii *Syn.* 224.

ALMOST every dry mountainous wood abounds with the Woodruff, nor is it unfrequent in the more level counties on a calcareous soil. It flowers in May.

Roots perennial, creeping among dead leaves and the more light and friable vegetable mould, and throwing up numerous, upright, simple, annual, smooth, angular, leafy stems, about a span high. Leaves 8 in a whorl, occasionally 7 or 9, bright-green, rough at the margin only. Panicles forked, dense, terminal, on longish stalks, generally 3 together. Flowers white, occasionally fragrant, particularly at night. Corolla shorter than in some other species, but sufficiently tubular to mark the genus. Fruit rough with ascending bristles.

We presume the English name Woodruff alludes to the whorled position of the leaves, like an old-fashioned ruff; and that Woodroof is a corruption of it.

The fresh herb has no smell; but as soon as it begins to dry it exhales a pleasant and lasting fragrance like that of new hay verging towards the flavour of bitter almonds, to the great surprise of those who gather it and keep it about them unawares.

The only British species of this genus, besides that here described, may be found in our 1st vol., t. 33.



Schimper det. Oct. 1 1791

ASPERULA cynanchica.

Squinancy-wort.

TETRANDRIA Monogynia.

GEN. CHAR. *Corolla* of one funnel-shaped petal.
Seeds two, globose.

SPEC. CHAR. Leaves linear, in fours, except the upper ones, which are opposite. Stem somewhat erect. Flowers four-cleft.

SYN. *Asperula cynanchica*. Linn. *Sp. Pl.* 151. Hudf.
Fl. An. 66. *With. Bot. Arr.* 159. *Relb. Cantab.*
64.

Rubeola vulgaris quadrifolia lævis, floribus purpurantibus. Raii. *Syn.* 225.

FOUND on dry, chalky, sunny banks, in most parts of England, flowering in the middle of summer. Our specimens came from Dartford. The root is perennial, but does not thrive well in a garden, requiring, probably, like many other plants, its natural shelter of herbage. The stems are mostly procumbent, erect at their extremities only. The leaves very unequal in length, generally in fours, rarely five; blunt, but tipped with a sharp point. The flowers have a great degree of beauty, being white or bluish-coloured, elegantly marked with red lines. They have a sweet smell, which, however, like that of Woodroof flowers, is rarely to be perceived. As they dry they become rugged, in which state Linnæus appears to have described them in his *Species Plantarum*.

Dalechampius seems to be the chief authority for the reputation this plant has acquired in the cure of quinsies, from which its name is taken. He says it should be applied externally as well as taken inwardly. It is out of use, as we are now furnished with remedies of more undoubted efficacy in the putrid as well as inflammatory sore throat.

September 4

1881

1881

1881

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G A L I U M cruciatum.

*Cross-wort.*T E T R A N D R I A *Monogynia.*

GEN. CHAR. *Cor.* of one petal, flat. *Seeds* two, roundish.

SPEC. CHAR. Leaves in fours, ovate, hairy. Stem simple above, hairy. Bunches of flowers lateral, with two leaves. Flowers polygamous. Fruit smooth.

SYN. *Galium Cruciatum.* Scop. Carn. 100. *With. Bot. Arr.* 149.

Valantia Cruciatum. Linn. Sp. Pl. 1491. *Huds. Fl. An.* 441. *Relb. Cant.* 377.

Cruciatum. Raii Syn. 223.

THIS grows every where about hedges and thickets, flowering early in summer. The root is perennial, creeping and slender. Stems branched at their base, but perfectly simple in the upper part, weak, and resting against bushes, quadrangular, very hairy, jointed, and bearing at every joint four ovate, entire, soft, hairy leaves, from whose bosoms all the way up the stem arise several slender, forked, many-flowered peduncles, each furnished with two small leaves at its first divarication. The flowers are formed exactly like those of other species of *Galium*, except that some are only male, wanting a germen, and of the complete or hermaphrodite ones, some are five-cleft. The style is deeply cloven, and the rudiments of seeds two, though one generally proves abortive, and the fruit becomes globose, smooth, and is sheltered by the reflexed leaves.

That this plant belongs to the natural genus of *Galium* there can be no doubt: see the question well discussed in *Bot. Arr.* 149 and 1139, &c. but it does not follow that all the *Valantiæ* of Linnæus are of the same genus. *V. glabra*, *articulata*, and *Aparine* may be so, but surely *V. muralis* ought from its fruit to form a genus. It is to be wished that and other foreign species should be well examined as to their fructification, which appears in some respects to be very curious.

As the old name *Cruciatum* is in fact an adjective, we have ventured to consider it as such, to avoid jarring terminations. See Remarks on *Lathyrus Nissolia*, t. 112.



Verbena
officinalis
L.
Stem
leaves
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seed
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ing
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form
man
meth

Galium saxatile - Smooth Heath Bed Straw

Tetrandria monogynia

Gentle Cor of 1 Petal. flat super

Seeds 4 roundish

Sp. Ch. - Leaves 6 in a whorl obovate
obtusely tipped with a small point. Stem
much branched prostrate smooth - Fruit
granulated

It is very abundant in heathy bony
places flowering plentifully from June to
the End of summer. Roots perenn. & creep-
ing stem much branched procumbent or
straggling smooth bearing numerous whorls
of spreading obovate leaves 6 in a whorl
each tipped with a short bristly point &
for the most part rough at the edge - the
panicles are terminal 3 forked smooth
flowers with white small but conspi-
cuous from their number - Fruit small
neither bristly nor smooth but studded

all over with minute prominent granu-
lations by which circumstance alone this may
be known from every other British G.
except the tricoone which is widely
separated from it in other respects -

all
latis
the
ex
fene



G A L I U M pufillum.

Least Ladies-bedstraw.

TETRANDRIA Monogynia.

GEN. CHAR. Cor. of one petal, flat. Seeds two, roundish.

SPEC. CHAR. Leaves about eight in a whorl, rough, linear, pointed. Flower-stalks forked. Fruit smooth.

SYN. Galium pufillum. Linn. Sp. Pl. 154. Hudf. Fl. An. 69. With. Bot. Arr. 154. Villars Dauph. v. 2. 324. t. 8.

NEITHER Ray nor Dillenius seems to have noticed this species of Galium, unless it be what the latter intended by *Galium album supinum multicaule*, Rupp. Fl. Jen. 4. Raii Syn. 224. It does not well agree with Ruppius's description, which is however a very indefinite one, and it may nevertheless be the plant of Dillenius. This specimen was gathered in July last by Dr. Smith, at Matlock Bath, Derbyshire, where it grows abundantly, thriving much in the calcareous rocky soil originally deposited by the Matlock water. Mr. Hudson mentions the neighbourhood of Kendall in Westmoreland as its place of growth.

The root is perennial. Stems square, extremely numerous, from three to ten inches high, forming large tufts covered with innumerable milk-white flowers, very conspicuous at a distance. The leaves are tipped with a short pale bristle, and, as well as the stem, are generally, but not always, rough with short spreading hairs. They are not exactly linear, but rather lanceolate, from six to eight, or even nine, in a whorl, equally spreading; the lower ones so close together that they are almost imbricated; but that is by no means peculiar to this species. We have therefore omitted it in the specific character.

Our specimens agree precisely with those in the Linnæan Herbarium from Monf. Gerard, except that his are rather less. There is no certain figure of this Galium extant, except the indifferent one of Monf. Villars.

I have
 been
 sick
 I feel
 chills
 some
 frequent
 on little
 of last
 evening
 nity to
 had to
 & good
 in his

Galium verum - Yellow Bedstraw
Tetrandria Monogynia

Gen. Ch. Cor of 1 Petal flat sup
 seeds 2 roundish

Spec. Ch. Leaves 8 in a whole linear
 channelled entire rough - Flowers in
 dense panicles fruit smooth

Frequent in the borders of our Fields
 on little bushy hills - flowering in the Months
 of July & August - Root perennial
 creeping of a tawny hue evincing its affi-
 nity to madder - The Power of this
 herb to coagulate Milk is well known
 & Gerard tells us the best Cheshire Cheese
 in his time was made with it,



GAL IUM boreale.

Cross-leaved Ladies Bedstraw.

TETRANDRIA Monogynia.

GEN. CHAR. Cor. of one petal, flat. Seeds two, roundish.

SPEC. CHAR. Leaves in fours, lanceolate, three-nerved, not hairy. Stem nearly erect. Seeds bristly.

SYN. Galium boreale. Linn. Sp. Pl. 156. Hudf. Fl. An. 70. With. Bot. Arr. 156.

Mollugo montana erecta quadrifolia. Raii Syn. 224.

THE Galium before us is one of the most easily determined, being distinguished from the common *Aparine* by having four leaves only at each joint, and from every other British species by its hairy or bristly fruit. It grows only in mountainous countries, in rocky shady places about rivers, very plentifully at Kirkby Lonsdale, and in other parts of Westmoreland, as well as in Scotland. Mr. Robson sent this specimen from the county of Durham.

The root is long and slender, running deep among the stones, tinged with red, which colour it communicates to woollen. Stems much branched, rough to the touch as well as the leaves, though not hairy. The leaves are pale beneath, blunt, and very accurately three-nerved. Copious panicles of milk-white flowers terminate the stem in July, at first sight appearing like those of Galium Mollugo, especially when growing among bushes. The hairs on the fruit are slightly curved upwards, and of a whitish colour.

Galathea 5

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Galium Aparine - Goose grass or Cleavers

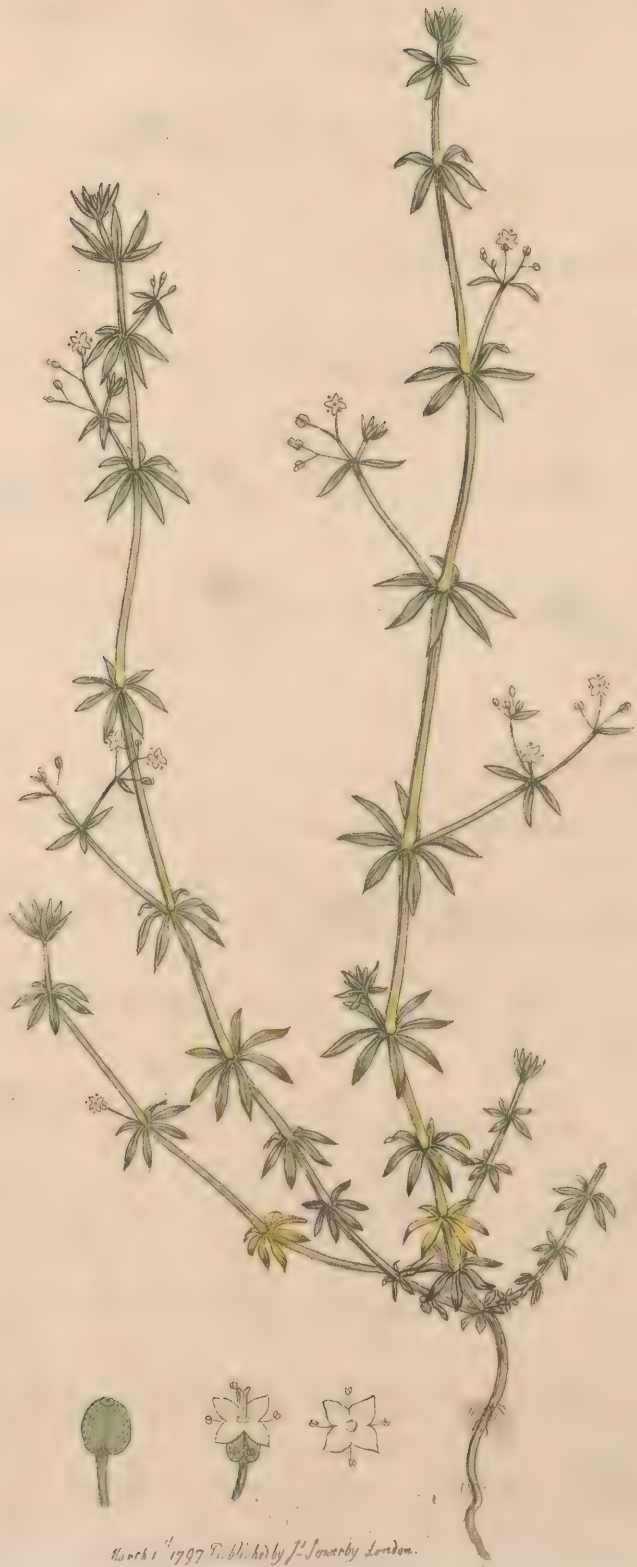
(*Tetrandria Monogynia*)

Herb - Cor of 1 Petal - flat. sap?

Seeds 2 roundish

Spur-like leaves in a whorl lanceolate keeled rough fringed with reflexed prickles - Stem weak four bristly

This grows on every hedge the ripe seeds especially hang to the coats of animals & thus are widely diffused it is an annual & flowers all summer long the weak stem is supported by bushes - The expressed Juice of the Plant is recommended as an Antiscorbutic - We have not had an opportunity of judging of its merits nor ^{as} Dr. Wood will bring us fresh testimonies in of favour



March 1797. Published by J. Sonnerby London.

G A L I U M anglicum.

Small Ladies-bedstraw.

T E T R A N D R I A Monogynia.

GEN. CHAR. Cor. of one petal, flat. Seeds two, roundish.

SPEC. CHAR. Leaves about six in a whorl, lanceolate, pointed, ciliated with prickles. Stems straggling, rough. Flower-stalks cloven. Fruit without hairs.

SYN. Galium anglicum. *Huds. Fl. An.* 69. *With. Bot. Arr.* 153.

G. parisiense. Relb. Cant. 67. *Linn. Sp. Pl.* 157?

Aparine minima. Raii Syn. 225. t. 9. f. 1.

SENT from Cambridgeshire by the Rev. Mr. Hemsted. It is found also in Norfolk and Suffolk, though very rarely, for the most part upon walls in a dry sandy soil, flowering in June and July, after which the plant is soon dried up and perishes.

Root small, annual. Stems several, spreading, branched, square, their angles rough with reflexed bristles. Leaves small, about 6 in a whorl, reflexed, lanceolate, pointed, their edges, and sometimes their upper surface, rough with bristles pointing forwards. Flower-stalks terminal, slender, smooth, forked, with a pair of leaves at their first divarication, and here and there a minute solitary leaf above. Flowers pale greenish yellow, very small, with pointed ribbed petals. Germen and fruit destitute of hairs, but when magnified they appear rough with minute tubercles.

This may possibly be, as Dr. Stokes suspected, merely a variety of the *G. parisiense* of Linnæus; for no difference is discoverable between his original specimens and ours, except the fruit of the former being thickly clothed with prominent hairs. Whether the abovementioned tubercles on the fruit of *G. anglicum* may, in any circumstances, produce such hairs, has not yet been ascertained. In the mean while we here exhibit what is undoubtedly Mr. Hudson's plant, as well as Ray's, that there may be no uncertainty about that part of the question in future.

Robert L.





Q Q

Rubia peregrina Willd & Madder

Tetrandria Monogynia

Genl. Cor of 1 Petal bell shaped
supr. Berries 2 each with a single seed

Spec. Ch. Leaves about 4 in a whorl
elliptical shining & smooth on their upper
side - Flowers 5 left

This is not unfrequent in South Wales
Cornwall Devonshire & Vincent's Rocks
& some few other places in the Str. of Eng.
It grows among bushes on a rich or brany
soil flowering in July & opening its berries
rather late in Autumn - Roots perennial
creeping their inner bark red or orange col^d
having the property of dying red like the
R. Tinctorum. ^{from} which however this Species
is most decidedly distinct & from which
it may be known by the smooth tho' finely
granulated upper surface of the leaves -
the herb in mild winters is evergreen -

Stems branched square prickly brittle &
when not supported procumbent leaves
rigid 4 (rarely 5 or 6) in a whorl - reflex
shining elliptical broader & tip pointed
than those of *R. tinctorum* very rough with
little hooked prickles on the margin & nerve
Panicles forked terminal. Cal 0. Cor all
most universally 5 cleft with 5 stamens
Yellowish green concave but shallow
germen smooth berries in pairs and but
one of them often abortive

Star
whe
Egi
Shu
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yel
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me



1703 101

EXACUM filiforme.

Least Gentianella.

TETRANDRIA Monogynia.

GEN. CHAR. *Cal.* in 4 segments. *Cor.* salver-shaped, with an inflated tube. *Caps.* with 2 furrows, 2 cells, and many seeds, bursting at the top. *Stigma* capitate.

SPEC. CHAR. Leaves sessile. Stem filiform, forked. Flowers on long footstalks.

SYN. *Gentiana filiformis.* *Linn. Sp. Pl.* 335. *Huds. Fl. An.* 103. *With. Bot. Arr.* 263. *Fl. Dan. t.* 324. *Centaureum palustre luteum minimum nostras. Røii Syn.* 286.

THIS very uncommon and curious little flower was sent us by Dr. Pulteney from Dorsetshire, being found there, as well as in Cornwall, not very sparingly, in boggy situations. It is an annual, and flowers in July, ripening its minute seeds in August.

Root fibrous, small and whitish. Stem from two to four inches high, erect, round, slender, more or less branched in a forked manner, sometimes from the very bottom; but the lateral branches have seldom strength enough to become again forked, bearing only a pair of leaves about their middle, where the subdivision would have been. Leaves opposite, lanceolate, somewhat spatulate, entire, small, and few in number, chiefly three or four pair near the root, and one smaller pair at each subdivision of the stem. Every part of the herb is smooth. Flowers terminal, solitary, standing on long flower-stalks, which are in fact elongations of the stem or branch. Bractææ none. Calyx ovate, divided half way down into 4 sharp segments, with membranous edges. Tube of the corolla about as long as the calyx, inflated and pellucid; limb yellow, in 4 equal spreading concave segments, expanding only in bright sunshine; orifice naked, into which the 4 little short curved stamina are inserted. Germen elliptical; style about as long as the germen, slightly curved; stigma capitate, scarcely perceptibly cloven.

That this plant belongs to the genus of *Exacum*, and not to *Gentiana*, there can be no doubt. See Dr. Smith's *Icones pictæ fasc. 3. t. 18*, where the characters of *Exacum* and its allies are determined. But that genus was not known when Linnæus described the plant before us, nor had he studied the natural order to which it belongs.

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Exacum 7

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J. Sowerby del.

PLANTAGO *maritima*.

Sea Plantain.

TETRANDRIA *Monogynia*.

GEN. CHAR. *Cal.* 4-cleft. *Cor.* 4-cleft; its limb reflexed. *Stamina* very long. *Caps.* with two cells, bursting all round.

SPEC. CHAR. Leaves linear, mostly entire, channelled, woolly at the base. Spike cylindrical. Stalk round.

SYN. *Plantago maritima*. *Linn. Sp. Pl.* 165. *Huds. Fl. An.* 64. *With. Bot. Arr.* 144. *Relb. Cant. Suppl.* 2. 9.

P. marina. *Raii Syn.* 315.

NO plant varies more in size than this. Its leaves are sometimes scarcely an inch, at other times more than a foot in length. The height of the stalk is more constant, but the number of flowers in the spike varies beyond computation. Ours is a moderately luxuriant specimen. It loves a muddy soil, and flowers late in the summer. The root is perennial. It is as various in its place of growth as in size, being found on the highest of our mountains as well as on the shore, like *Statice armeria*. Hence it has been taken for *P. alpina*, which last is a very different plant, with short oval spikes, and lanceolate flat leaves, and has never (we believe) been found in Britain. Still less resemblance has our *Plantago*, though it has sometimes dentated leaves, to *P. Loeftingii*, that having flat leaves, and very short roundish pale spikes of flowers, much like those of *P. Psyllium*, and having certainly never been met with in our island.

P. maritima may be known by its very fleshy and smooth leaves, channelled above and concave below, with a tuft of wool at their base, which indeed occurs in other species. The spike, however short, is always cylindrical.

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Page 8

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Handwritten text on the right margin, partially visible and illegible due to fading and bleed-through. Some words are difficult to decipher but appear to be part of a list or notes.

Plantago lanceolata. Ribwort Plantain

Tetrandria Monogynia

Gen. Ch. Cal. 4 cleft. Cor. 4 cleft inferior
its limb reflexed. Stamina very long
Cap. with 2 cells bursting all round

Spe. Ch. Leaves lanceolate - tapering at
each end. Spike ovate naked. Stalk angular

Common every where in Meadows & Pas-
tures flowering in June & July. root per-
ennial. leaves all grow from the root & are
for the most part upright. their form is tru-
ly lanceolate pointed entire each tapering
at the base into a long flat footstalk ribbed
like the leaf itself with 5 strong prominent
nerves. They are a dark green more hairy
beneath & at their insertion covered with
white long usually hair springing from the
crown of the root. Stalks erect growing from
among the leaves & clothed at their base with
the same kind of hair. upwards they are sim-
ple smoothish round with 5 deep furrows
twisted a little longer than their leaves &
terminated by an ovate spike which is im-
bricated with black scales & enlivened by
the prominent cream coloured anthers
It has been recommended as a good food
for sheep - or made into Hay for Cattle.

Plantago Coronopus - Buckhorn Plantain
Tetrandria Monogynia

Grassh. arifera

Sp. Ch. leaves linear in many,
 pinnate segments - stalks round

Common on dry sandy or gravelly ground
 & by the sea side in many places flow of
 all summer long. Root annual tapering
 leaves radical numerous spreading in a
 star like form & generally pressed close to
 the ground whence one of the old names of this
 species Star of the Earth - They are divided
 in a pinnatifid manner into numerous
 deep segments frequently toothed & subdivi-
 ded pointed more or less hairy - stalks several
 simple round hairy spreading from the
 base then ascending the central one only being
 quite erect - Spike about an inch long dense
 greenish - Corolla white - Anthers terminated
 by a membrane - Few Plants very small
 in size - on dry exposed heaths the little
 hoary leaves seem pressed almost into the
 Earth & the spikes are so short as to become

capitate in the Maritime Variety β . The leaves
are almost entire —

the

Constitution 9



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Centunculus minimus - Chaffinod or
 Bastard Pimpernel

Tetrandria monogynia

Grassh. Cal 4 cleft. Cor 4 cleft infer
 tubular limb spreading - Stam.
 short smooth - Caps. of 1 cell bursting
 all round with many seeds -

Spec Ch.

One of the best of our perfol plants as
 they are called which perhaps is reckoned
 more rare than it really is from its
 being so easily overlooked - It grows on
 watery sandy heaths flowering in June &
 July - Root small & annual the herb
 varies much in size like all annuals
 Stem generally a little branched at the base
 erect an in or 2 high a little angular hairy
 smooth leaves alternate sessile spreading
 ovate entire smooth - Flowers solitary
 sessile in the bosoms of the leaves white or
 reddish expanded only in the most brilliant
 sunshine & very short lived - Segments of
 the Cal. lanceolate acute. Cor. permanent
 tubular at the base its limb in 4 acute
 spreading segments - Stamens oval shaped

smooth very short inserted into the tube —
Caps. globose crowned with the permanent
style. —



Gen. 1797 Published by J. Sowerby London

EPIMEDIUM alpinum.

Barren-wort.

TETRANDRIA Monogynia.

GEN. CHAR. *Petals* 4. *Nectaries* 4 pouches, lying on the petals. *Calyx* opposite to the petals, caducous. *Pod* of one cell, with many seeds.

SPEC. CHAR.

SYN. *Epimedium alpinum*. *Linn. Sp. Pl.* 171. *With.* 199. *Ait. Hort. Kew. vol. 1.* 157.

THE first information we had of this as a British production was from Thomas Gisborne, Esq. of Yoxall Lodge, Staffordshire, who about six or seven years ago received a living plant collected by Mr. Thomas Hutton some time before upon Carrock Fell, Cumberland. Our specimen came from the garden of John Walker, Esq. who last year received from Mr. Hutton a portion of the original root. Dr. Withering has lately introduced the *Epimedium* into his work on the authority of Dr. Richardson, who is said in Blackstone's *Specimen Botanicum* to have found it in Bingley Woods, Yorkshire, and of Mr. Robson, who lately obtained a specimen from Skiddaw. We think therefore there can be no farther doubt upon the subject. It is probable that this plant, curious and beautiful as it is, may have generally escaped notice, from flowering early in the spring, after which its leaves soon wither away, before the wild bushy places it inhabits are commonly visited by botanists.

Root perennial, slender, creeping. Stems upright, scarcely a foot high, round, smooth, simple, bearing one alternately branched upright panicle of dark red drooping flowers, and one large twice or thrice compound leaf, divided in a threefold order, and composed of large, thin and delicate heart-shaped, pointed, finely ciliated leaflets, glaucous beneath, pendent, and, from their almost capillary foot-stalks, trembling to every breath of air. The terminal leaflets, and one of the lateral ones, are ternate; the other lateral one mostly simple: nor are the two sides of the general leaf ever compounded exactly in the same manner. Perhaps what is called the stem ought to be reckoned only the foot-stalk of the leaf, which, as in *Turnera*, bears the flower-stalk. The peduncles are rough with glandular hairs. Calyx of four concave greenish leaves, falling off as the flower expands. Petals dark red, ovate, opposite to the calyx. Nectary of four oblong blunt yellowish pouches, opening inwards, full of honey, and lying on the petals. Stamina awl-shaped; antheræ united with them longitudinally, and bursting on each side by a cover which separates from the base as in *Leontice* and *Laurus*. Germen ovate, becoming an oblong pod of one cell, two valves, and several seeds.

Edinburgh - 10

1841

1841



May 1. 1795. Picked by J. P. Sowerby London.

C O R N U S fanguinea.

Wild Cornel tree, or Dog-wood.

TETRANDRIA Monogynia.

GEN. CHAR. *Cal.* of 4 teeth. *Petals* four. *Drupa* inferior. *Nut* of two cells.

SPEC. CHAR. Branches straight. Leaves ovate, green on both sides. Cymes without involucra.

SYN. *Cornus fanguinea.* *Linn. Sp. Pl.* 171. *Huds. Fl. An.* 70. *With. Bot. Arr.* 160. *Relb. Cant.* 68. *Sibth. Oxon.* 61. *L'Herit. Corn.* 5.

C. foemina. *Raii Syn.* 460.

COMMON every where in hedges, yet most plentiful on a chalk or lime-stone soil. It flowers in June, and the berries ripen in August.

This shrub grows to the height of 4 or 5 feet; its wood is hard and even, fit for the use of turners, the bark smooth and of a dark red, except on the very youngest branches. Leaves opposite, ovate, entire, strongly nerved, green (not filky) beneath, entirely red before they fall, as in many American shrubs, to which country the genus of *Cornus* (though not this species) mostly belongs. Cymes terminal, flattish, of many greenish-white flowers, with an unpleasant smell. Petals revolute in the margin. Germen crowned with a glandular ring, into which the petals and stamina are inserted. Stigma obtuse. Berries dark purple, very bitter, as is the whole plant. It is said oil for lamps may be procured from them if boiled in water and pressed. See Ray's Synopsis 460.



Gentiana verna L. f. *Gentiana verna* L. f. *Gentiana verna* L. f.

CORNUS Suecica.

Dwarf Cornel.

TETRANDRIA Monogynia.

GEN. CHAR. *Cal.* of 4 teeth. *Petals* 4. *Drupa* inferior. *Nut* of 2 cells.

SPEC. CHAR. Herbaceous. Flower between two branches.

SYN. *Cornus Suecica*. *Linn. Sp. Pl.* 171. *With. Bot. Arr.* 161.

C. herbacea. *Huds. Fl. An.* 71.

Chamæpericlymenum. *Raii Syn.* 261.

MR. William Travis of Scarborough gathered the specimen here figured on the side of a valley in that neighbourhood, called the *Hole of Horcum*, where this alpine plant grows abundantly, as well as about the Cheviot hills, Northumberland, and in the Highlands of Scotland, flowering in June and July. It is nearly allied to a favourite American plant, *C. canadensis*, but does not thrive so well in a garden.

Root perennial, creeping, long and slender. Stems perfectly herbaceous, erect, rising to the height of 3 or 4 inches, square, leafy. Leaves opposite, sessile, ovate, entire, strongly ribbed, without stipulæ. Flowers in a little terminal pedunculated umbel, with a large involucre of 4 ovate unequal white leaves, often bordered with red, and turning green as the fruit ripens. Each flower stands on a short partial stalk, and is in every part, except the stamina, of an exceedingly deep purple, almost black. Stamina and antheræ whitish. The umbel might easily be taken, by a casual observer, for one simple flower with 4 white petals, and we are afraid Ray understood it so, having perhaps not seen it alive. The fruit is round, red, sweetish. On each side the stalk that supports the umbel arises the rudiment of a branch, which overtops the fruit before it arrives at maturity. The presence of these branches distinguishes this species from *Cornus canadensis*.



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Alchemilla vulgaris - Common Ladies Mantle

Tetrandria Monogynia

Gen. Ch. Cal in 8 segments - Cor 0.

Sep 1 marked

Spec Ch - Leaves lobed plaited

A native of any & rather mountainous
Pastures in which it often constitutes a great
part of the herbage flowering from the end
of May to August

The Root is woody & perennial with fibres
running deep into the ground - Stems more
or less procumbent alternately branched round
having leafy Radical leaves on long footstalks,
large roundish many lobed plaited serrated
more or less hairy especially beneath - The Ver-
dure of their upper surface is remarkably fine
The stem leaves are much smaller almost
petiole connected with a pair of large toothed
stipules which embrace the stem & the upper
leaves gradually diminish into bractes
Flowers in terminal corymbose clusters numerous
green downy their colour yellow structure of

The flower much as in *A. alpina* style gene-
rally simple with a capitate stigma but some-
times there are 2 styles & in that case 2 seeds

The *A. minor* of Hudson's 1st Edition seems a
trivial variety more sooty than the common
kind from growing in more exposed places

The
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April 1795 Published by J. Fisher in London.

ALCHEMILLA alpina.

Alpine Ladies Mantle.

TETRANDRIA Monogynia.

GEN. CHAR. Cal. in 8 segments. Cor. none.

Seed 1, naked.

SPEC. CHAR. Leaves digitate, ferrated.

SYN. Alchemilla alpina. Linn. Sp. Pl. 179. Huds.

Fl. An. 71. With. Bot. Arr. 162.

A. Alpina pentaphyllos. Raii Syn. 158.

MOST rocky mountains in the alpine parts of England and Scotland produce this elegant little plant; and in proportion to the barrenness and openness of its situation, is the rich silvery taint of the back of its leaves more dense and splendid. It is most conspicuous when agitated by the wind; for the flowers, though they partake externally of the same silvery hue, are small and inconsiderable.

The root is perennial, strong, and deeply fixed in the clefts of rocks, chiefly preferring the micaceous kind. Leaves radical, on long slender footstalks, deeply cloven into five (rarely more) obovate ferrated segments, dark green and smooth on the upper side, very silky beneath. Stalk erect, alternately branched, with a small leaf and 2 stipulæ at each subdivision. Flowers on partial slender silky flower-stalks, downy without, smooth and green within. Calyx cup-shaped, rim spreading, in 4 large segments, with 4 small intermediate, rather external, ones, opposite to which last the stamina are placed. Germen ovate, in the bottom of the calyx, which invests also the ripe seed. Style from the base of the germen, evincing its affinity to *Potentilla*, *Fragaria*, &c. which its habit and astringent qualities confirm. The flowers appear in July.

December 12

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Meibomia arvensis - Field Ladys Mantle
or Parsley Root

Tetraneura Monogynia

Genl Cal. in 8 segments. Cor o. Seed
naked.

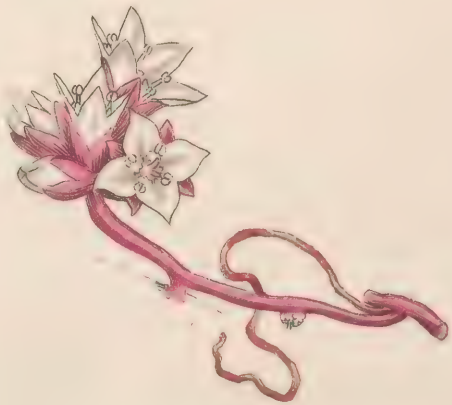
Spe Ch. Leaves plain 3 lobed notched

Very frequent in fallow fields gardens
& marshy banks where the soil is gravelly
or sandy springing up in Autumn & in mild
weather during the course of the Winter & early
Months & flowering all Summer long

Root annual small - Stems numerous
spreading or prostrate round leafy - Leaves
alternate on short footstalks plain palmate
3 lobed deeply cut somewhat glaucous & a
little hairy marked with dark ribs - Stipules
attached to the footstalk large deeply cut
Flowers in axillary hairy tufts green & in
conspicuous Cal urn shaped angular with 4
larger segments & 4 smaller intermediate ones
Stamina generally 4 tho often but 1 inserted
into the mouth of the Cal. Germen in the

bottom of the Cal. ovate small with a simple
style springing from its base - stigma cloven
sometimes there are 2 forms of styles in 1 Cal
as in the common A. t 597. with which this plant
most undeniably agrees as to form. - Its style
the insertion of the stamens & style the alternate
small lobes of the Cal. & we may add its flower
to scent resembling *Buena* all know its relation
to the viscerous Plants - It was formerly
esteemed to promote Urine very powerfully &
consequently to remove the gravel & stone

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CUSCUTA Europæa.

Greater Dodder.

TETRANDRIA Digynia.

GEN. CHAR. *Calyx* four-cleft. *Corolla* of one petal.

Capfule two-celled.

SPEC. CHAR. Flowers feffile, moftly four-cleft.

SYN. *Cuscuta Europæa*. *Linn. Sp. Pl.* 180. *With. Bot. Arr.* 165.

C. major. *Raii Syn.* 281.

OF all paraftical plants, the Dodder tribe are the moft fingular, trufting for their nourifhment entirely to thofe vegetables about which they twine, and into whofe tender barks they infert fmall villous tubercles ferving as roots, the original root of the Dodder withering away entirely as foon as the young ftem has fixed itfelf to any other plant, fo that its connexion with the earth is cut off.

The fpecies of *Cuscuta* are very ill underftood. Notwithftanding the doubts of Dr. Stokes in the *Bot. Arr.* whether the true Linnæan *C. Europæa* was ever found in England (the *C. Epithymum*, which has five-cleft flowers, being the moft frequent), we think there can be no doubt of its being our plant. This fpecimen was gathered on the common heath, *Erica vulgaris*, on One-tree-hill at Greenwich. The flowers are generally found with 4 divifions, rarely occurring with 5. It may be met with plentifully in flower in July and Auguft.



Publick ed by J. Tournefort 1720

CUSCUTA europæa.
Greater Dodder.

TETRANDRIA Digynia.

GEN. CHAR. Cal. 4-cleft. Corolla of one petal. Capsule 2-celled.

SPEC. CHAR. Flowers nearly sessile. Corolla without scales. Stigmas simple.

SYN. Cuscuta europæa. Linn. Sp. Pl. 180. With. Bot. Arr. 165. Fl. Dan. t. 199. inaccurate.

WE have been led into an error in the first volume of this work, p. 55, concerning the most common British *Cuscuta*, which, from trusting too much to the Linnæan specific character, we there published as the *europæa*, notwithstanding Dr. Stokes's just remarks in the *Bot. Arr.* which ought certainly to have warned us. We however take the first opportunity of correcting this error, Mr. Sowerby having last autumn received wild specimens of the real *europæa* from Mr. Alexander Smith of Aberdeen, and others from the Rev. Mr. Hemsted, which have at the same time verified the plant as a native of Britain, and helped us to fix an essential character between that and the other. This character consists in the total want of the nectary, or more properly scales, at the base of the stamina. The true *europæa* is also larger in all its parts, except that the styles are rather shorter, and generally more divaricated. The simple stigmas of both these species distinguish them from *C. americana*, which has capitate stigmas. The number of stamina, and segments of the corolla, varies from 4 to 5 in all the species; the latter we have found the most prevailing, at least in the *Epithymum*, *americana*, and a new East Indian species; so that perhaps the genus ought to be removed to the 5th class. *C. europæa* grows parasitically upon nettles, flax, thistles, &c. flowering in August and September. The corolla is very thin, pellucid, reticulated, and permanent.

We beg leave to substitute the following synonyms and characters for those already given to our *Tab. 55*.

CUSCUTA Epithymum.
Lesser Dodder.

SPEC. CHAR. Flowers sessile. A fringed scale close at the base of each stamen. Stigmas simple.

SYN. Cuscuta Epithymum. Linn. Syst. Veg. ed. 13. 140. With. Bot. Arr. 166. Fl. Dan. t. 427. bad.

THE synonym of Ray probably belongs to this, being by far the most common, but the *C. major* of Bauhin must be the other. British authors in general have either confounded the two, or taken, as we did, the *Epithymum* for the *europæa*.

10

May 13





Holly
In May
Flowers
In June
In July
In August
In September
In October
In November
In December

Ilex Aquifolium. Common Holly

Tetrandria Tetragynia

Gen. Ch. Cal. with 4 or 5 teeth. Cor a wheel shaped. Styles 4. Berries with 4 seeds some male flowers which are 4 cleft

Spec. Ch. Leaves ovate acute spinous

In Woods Hedges & Thickets not uncommon flowering in May, the berries ripening in Autumn & lasting thro the Winter - There is a natural Wood of Holly 1/2 a mile from Normich in the Way to Thorpe the ground of which is an entire Mat of holly of the Valley mixt with Hare Bell & ^{Wood} flowering Bush

The Holly Tree is of a slow growth & long duration the Wood is consequently hard & close grained the bark smooth grey abounding in Mucilage & hence by maceration in Water it makes Bird lime. Leaves alternate on footstalks elliptical pointed & waved

rigid evergreen shining their margins (except
on very old branches) divided into spinous lobes.
In some cultivated varieties the upper surface
is prickly & the leaves are very liable to be
variegated with pale or deep yellow. Flowers
white in axillary clusters either 4 or 5 deep the
~~at~~ early ones imperfect & generally intermixed
with some that have no frons & these are
always 4 deep. Stamina spreading alternate
with the lobes of the corolla. Stigmas sepals
Berry scarlet rarely yellow lasting long &
uninjured by our summer frosts.

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168.



J. Sowerby del. Apr. 1796.

POTAMOGETON perfoliatum.

Perfoliate Pond-weed.

TETRANDRIA *Tetragynia.*

GEN. CHAR. *Cal.* none. *Petals* 4. *Style* none. *Seeds* 4.

SPEC. CHAR. Leaves heart-shaped, embracing the stem.

SYN. *Potamogeton perfoliatum.* *Linn. Sp. Pl.* 182.

Huds. Fl. An. 74. *With. Bot. Arr.* 172. *Relb. Cant.*

70. *Raii Syn.* 149.

VERY common in ponds and rivers in every part of England; nor is it, as far as we have observed, at all peculiar to a clay soil, as Linnæus seems to hint.

Every part of the plant, except the flower-stalks, is completely immersed in the water, so that it is only to be discovered by the spikes of flowers about July and August standing a little above the surface, and abounding in whitish pollen. It should seem the respiration of such truly aquatic vegetables must be as different from the respiration of those which inhale atmospheric air, as the breathing of fishes is from that of beasts and birds. Accordingly we find their leaves of an extremely different texture, pellucid like oiled paper (as Haller remarks), very vascular, harsh and ribbed, but often extremely brittle. The surface of such plants, like that of aquatic animals, is destitute of hair or down of any kind.

The stalks of this Pond-weed are very long, round, with leaves crowded about the top and branches. These leaves might rather be called ovate than heart-shaped, at least in the most common appearance of the plant. The petals are of a dull purple, and so situated that the air easily passes between them to waft the pollen to the stigma. The seeds are compressed, and shining.

200

37



POTAMOGETON densum.

Close-leaved Pond-weed.

TETRANDRIA Tetragynia.

GEN. CHAR. *Cal.* none. *Petals* 4. *Style* none. *Seeds* 4.

SPEC. CHAR. Leaves ovate, acuminate, opposite, crowded. Stem forked. Spike of 4 flowers.

SYN. Potamogeton densum. *Linn. Sp. Pl.* 182. *Huds. Fl. An.* 75. *With. Bot. Arr.* 173. *Relb. Cant.* 72. *Sibth. Ox.* 65.

P. feu Fontinalis media lucens. *Raii Syn.* 149.

NOT uncommon in ditches, ponds, and flow streams, flowering in the early part of summer.

It is perennial, propagating itself by runners which throw out fibrous roots here and there into the mud, and send up round stems, naked and simple below, forked above, and thickly clothed with numerous pairs of opposite sessile spreading leaves, both rows of which often incline to one side. Each leaf is ovate, lengthened out into a point, ribbed, undulated, entire; we have not found any serratures or prickles on their margin, as some authors describe. Flower-stalks from between the divisions of the stem (the uppermost terminal, till young branches are protruded beyond it), short, round, recurved, bearing a short spike, or rather a little head, of 2 or 4 flowers, well compared by Clusius, and by Gerarde after him, to those of *Adoxa*; but it must be observed that Johnson, the professed corrector of Gerarde, has erroneously inserted a figure from Clusius of *P. crispum* under the synonym of *P. densum*. Every part of the flower is green.



Andropogon scoparius

POTAMOGETON lucens.

Shining Pond-weed.

TETRANDRIA Tetragynia.

GEN. CHAR. *Cal.* none. *Petals* 4. *Style* none. *Seeds* 4.

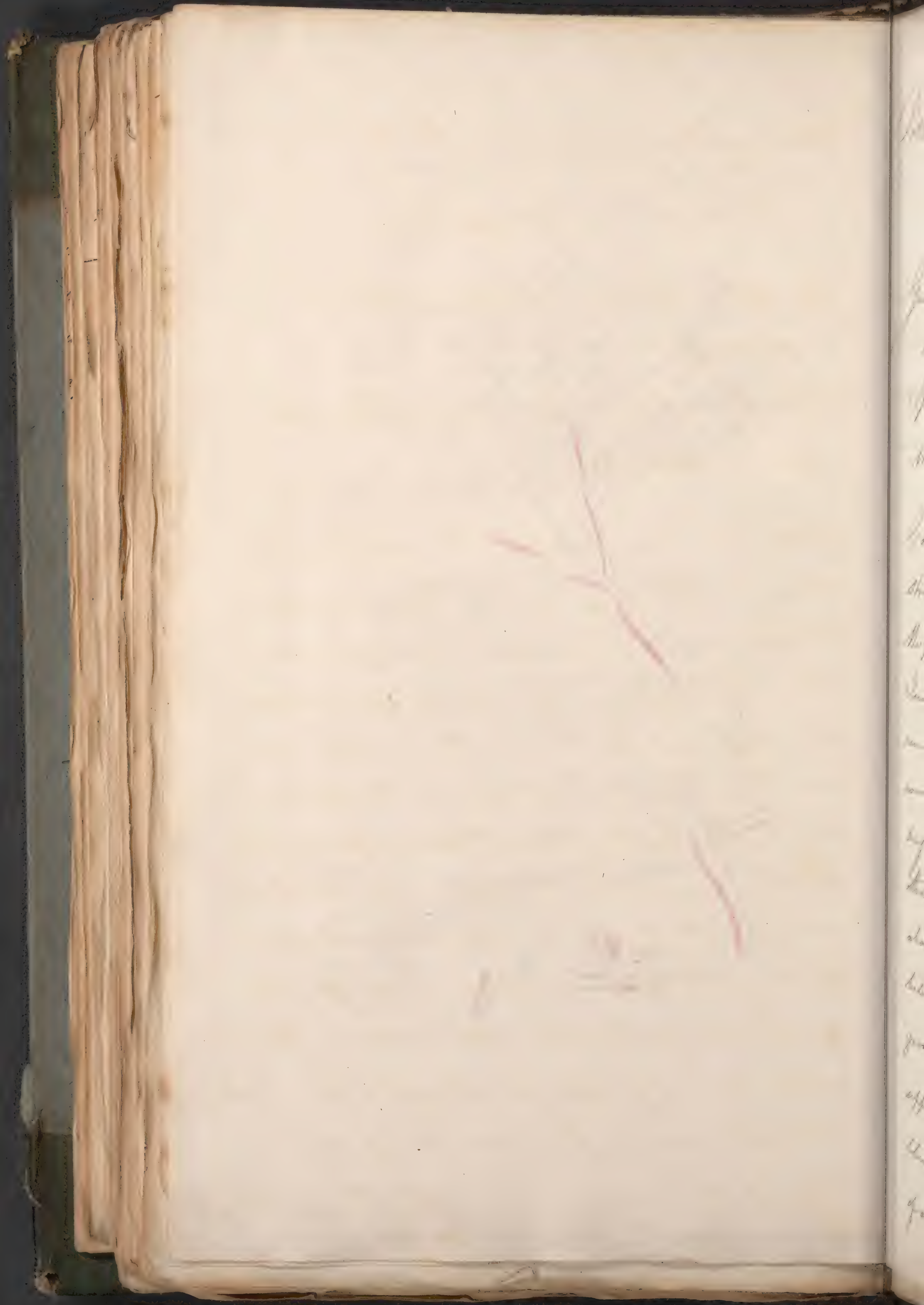
SPEC. CHAR. Leaves flat, ovato-lanceolate, tapering down into foot-stalks. Spike dense, many-flowered.

SYN. Potamogeton lucens. *Linn. Sp. Pl.* 183. *Huds. Fl. An.* 74. *With. Bot. Arr.* 173. *Relb. Cant.* 71. *Sibth. Ox.* 65.P. aquis immersum, folio pellucido, lato, oblongo, acuto. *Raii Syn.* 148.

FREQUENT in ditches, ponds, lakes or slow-flowing rivers, chiefly on a clay soil, growing, like most others of its genus, all immersed in the water, except the spike of flowers, which appears above the surface about midsummer, or a little after.

The root is perennial, stems long, nearly simple, a little zigzag, leafy, round. Leaves alternate (except where the flowers are situated) lanceolate or ovate, entire, a little waved, ribbed, running down into a short foot-stalk, and accompanied by a long obtuse folded intrafoliaceous stipula, longer than each joint of the stem. The flowers grow in a long dense spike, on a round tumid stalk, which stands solitary in the axilla of one of the opposite leaves, and is sheathed at the bottom by the stipula. Flowers dark green, the stigma often purplish.

There are two common varieties of this species, one of which has lanceolate leaves, tapering down very gradually to their insertion. This being figured in the *Flora Danica*, t. 195, and most other authors, we have represented the other variety, No. 2 of Withering, whose leaves are perfectly ovate, and placed on a real foot-stalk, less perceptibly winged by the running down of the leaf: these two plants however differ in no other respect, and may easily be traced one into the other.



Potamogeton crispum Curled Pondweed

Tetrandria Tetragynia

Length Cal 5. Petals 4. Style 2

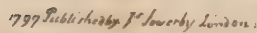
Seeds 4.

Spikes leaves lanceolate alternate
waved serrated

Common in ditches Ponds & slow
streams floating under Water except
the flowers which are seen emerging in
June & July. The creeping perenn. roots
run deep into the mud & throw up nume-
rous branched stems, varying in length accor-
ding to the depth of the Water or force of the
stream as usual in this genus & clothed
above with numerous leaves - Each space
between the leaves is a little compressed &
grooved on each side - lower leaves alternate
upper generally opposite all sessile lanceolate
bluishish waved finely serrated pellucid
of a pale green. Flower stalks a little

longer than the leaves - solitary each bearing
a loose spike of 6 or 8 sepals brownish flowers
with a tinge of purple, purple styles & yellow
ish nearly sepals anthers

Mr Curtis observes that Ducks eat the
leaves as well as seeds of this species &
may therefore be useful where it increases
to a troublesome degree which is not un-
frequently the case



1797 Published by J^r Sowerby London.

POTAMOGETON compressum.

Flat-stalked Pond-weed.

TETRANDRIA Tetragynia.

GEN. CHAR. Cal. none. Petals 4. Style none.
Seeds 4.

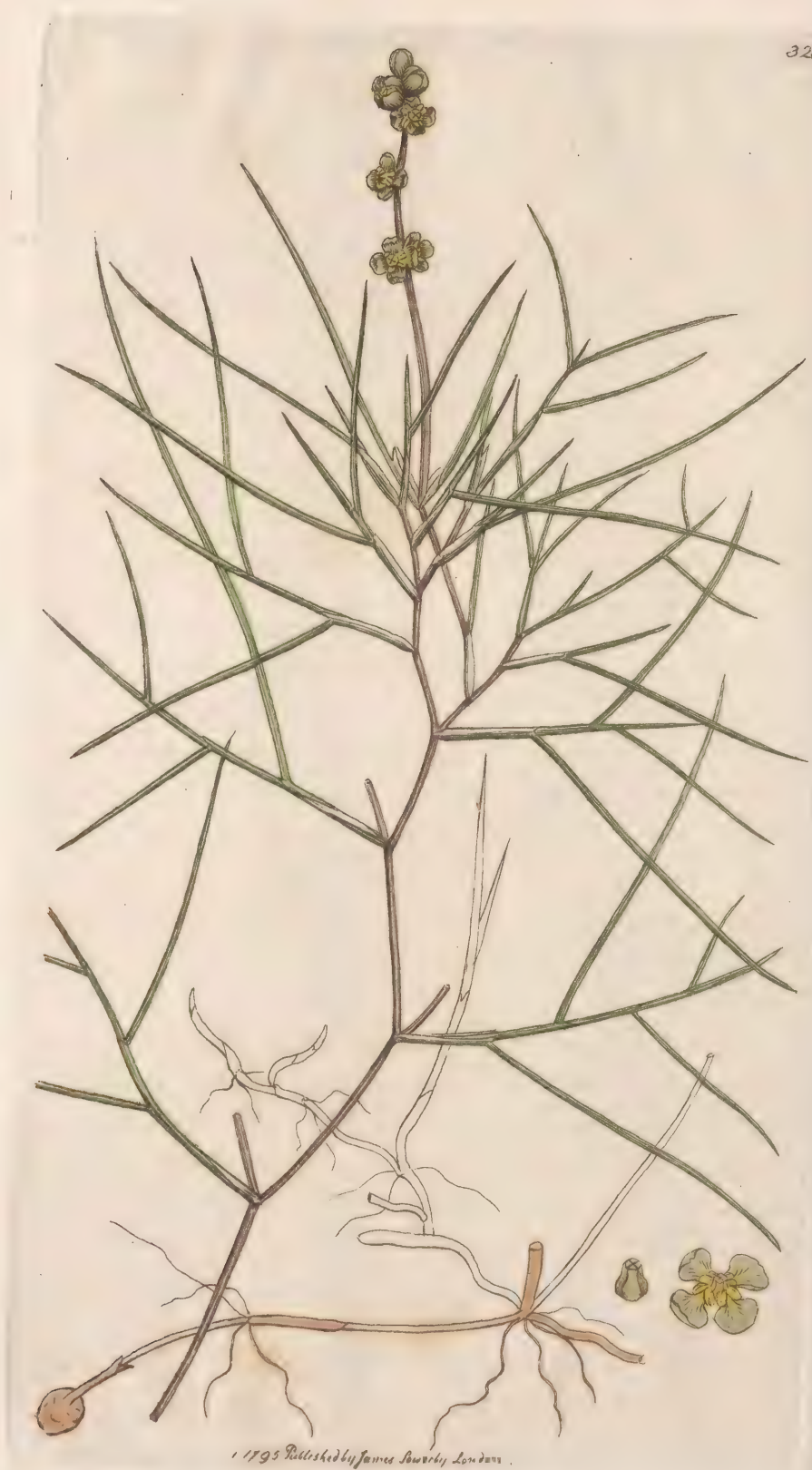
SPEC. CHAR. Leaves linear, obtuse. Stem compressed.

SYN. Potamogeton compressum. Linn. Sp. Pl. 183.
Huds. Fl. An. 75. With. Bot. Arr. ed. 3. v. 2.
213. Relb. Cant. 72.

P. caule compresso, folio Graminis canini. Raii
Syn. 149.

IN the difficult genus of *Potamogeton* we find it necessary to proceed with the utmost caution, publishing a species now and then as (we presume at least) we clearly understand it. That this is the true original *compressum* of Linnæus, as well as of all British writers, we learn from the Clifortian Herbarium in Sir Joseph Banks's possession, that being in the present case the original authority, Linnæus having afterwards confounded with this a very different plant, which by no means answers to the character.

Potamogeton compressum is not very uncommon in ditches and slow streams about London, and other parts of Great Britain, flowering in June and July, when its small spikes of about 4 or more brownish-green flowers just emerge from the water. It has most affinity with *P. pusillum*, see our Vol. 3, t. 215, but is twice as large in all its parts, and essentially distinguished by its compressed stem; neither do the leaves spread so immediately from the base as in that species. The root is perennial. Stem zigzag, alternately branched, very much compressed all the way up. Leaves generally alternate, but the uppermost often opposite, all exactly linear, obtuse, with a strong central nerve, and 2 fine lateral ones on each side. Stipulæ intrafoliaceous, one to each leaf, embracing the stem; the lower ones generally acute and lacerated, the upper ones more obtuse and entire. Flower-stalk short, solitary, terminal till the stem grows above it.



1795 Published by James Sowerby, London.

POTAMOGETON pectinatum.

Fennel-leaved Pond-weed.

TETRANDRIA Tetragynia.

GEN. CHAR. *Cal.* none. *Petals* four. *Style* none.
Seeds four.

SPEC. CHAR. Leaves bristle-shaped, parallel, thickly
set in two ranks.

SYN. *Potamogeton pectinatum.* *Linn. Sp. Pl.* 183.
Huds. Fl. An. 76. *With. Bot. Arr.* 175. *Relb.*
Cant. 72. *Sibth. Ox.* 66.

P. millefolium, seu foliis gramineis, ramosum. *Raii*
Syn. 150.

THE Linnæan Herbarium has no specimen of the *Potamogeton pectinatum*; but from the whole history of this plant in Linnæus and other authors, there can be no doubt of its being what we have here delineated. We are sure this is what Mr. Relhan intended, having received specimens from himself. It occurs not unfrequently in rivers, though, if the stream be rapid, it rarely flowers.

The root is perennial, originating from a tuberos lump, then creeping horizontally, slender, much branched, as is also the stem, which floats under water, extending often two or three feet. The leaves, though extremely narrow and pointed, are flat, and grow alternately, spreading in two directions, on the small branches, having long sheathing bases. The flowers only rise above the water about June or July, in a simple spike, but clustered two or three together irregularly. Petals kidney-shaped, of a dull olive colour. Antheræ yellow, very distinctly two-lobed. Stigmas obtuse, entire.



Nov. 1794 Published by J. Fawcett, London

POTAMOGETON pufillum.

Small Pond-weed.

TETRANDRIA Tetragynia.

GEN. CHAR. *Cal.* none. *Petals* 4. *Style* none. *Seeds* 4.

SPEC. CHAR. Leaves linear, opposite and alternate, distinct, spreading from the base. Stem cylindrical.

SYN. Potamogeton pufillum. *Linn. Sp. Pl.* 184.
Huds. Fl. An. 77. *With. Bot. Arr.* 176. *Relb. Cant.* 73. *Sibth. Oxon.* 66.

P. pufillum, gramineo folio, caule tereti. *Raii Syn.* 150.

NOT very uncommon in ponds and ditches throughout England. The root has all the appearance of being perennial (though Linnæus marks it as annual), and several fibres are thrown out from the lower part of the stem, which is round, very slender, and alternately branched above. Leaves linear, very narrow, mostly alternate, but opposite under every flower-stalk, sessile, spreading from the very base, and not sheathing the stem, their margin perfectly smooth and entire. Stipulæ membranous, lanceolate, inserted above each leaf, and embracing the stem. Flower-stalks axillary, frequently terminal till the stem shoots beyond them, shorter than the leaves, each bearing a spike of 3 or 4 greenish flowers in the middle of summer.

The able authors of the *Bot. Arrangement* have in this instance not translated the specific character of Linnæus with their usual accuracy. Neither do we conceive the scales mentioned in Dr. Withering's description to be *bractææ*, or belonging to the flower-stalks; it is evident, from an inspection of the plant, they are real *stipulæ intrafoliaceæ*.

Page 14

THE HISTORY OF

THE

REIGN OF

CHARLES THE FIRST

BY

JOHN BURNET

ESQ.

OF LINCOLN'S INN

ESQ.

IN TWO VOLUMES

VOLUME THE FIRST

LONDON

Printed by J. Streater

at the Sign of the Gun

in St. Dunstons Church

Street

1679

By Authority

Examined and Approved

by the Learned Judges

of the High Court of

Commons

RUPPIA *maritima*.*Sea Ruppia.**TETRANDRIA Tetragynia.*

GEN. CHAR. *Cal.* none. *Cor.* none. *Seeds* 4, on foot-stalks.

SPEC. CHAR.

SYN. *Ruppia maritima*. *Linn. Sp. Pl.* 184. *Huds. Fl. An.* 77. *With. Bot. Arr.* 177.

Potamogeton maritimum *gramineis longioribus foliis, fructu ferè umbellato.* *Raii Syn.* 134, t. 6, f. 1.

Fucus ferulaceus. *Ger. em.* 1573, good.

A GOOD observer may, we believe, find this curious plant in most of our British salt-water ditches, especially in the latter part of summer, when its pedunculated seeds distinguish it from all vulgar pond-weeds. Mr. E. Forster, jun. favoured us with this specimen from a ditch by the road from Maldon to Goldhanger, where Ray observed it.

Whether the root be annual or perennial is not easy to determine. The stems are long and slender, round, very much branched, clothed with alternate linear pointed leaves, which embrace the stem with a membranous sheath at their base. Two flowers commonly stand sessile, one a little above the other, on an axillary flower-stalk, various in length, and sometimes coiled, by means of which they alone are raised above the water when the pollen is ripe. The antheræ are sessile, bursting at top into two hemispheres; the germens seem scarcely pedunculated before impregnation, but are afterwards raised in a wonderful manner from the receptacle, each on its own proper foot-stalk. The seeds are oval, slightly gibbous on one side, especially when young. They ripen in August.

The account in Ray's Synopsis, written by Dillenius, is incorrect in saying the flowers (or stamina) grow remote from the fruit, and that the latter appears first.

Potamogeton maritimum most resembles the *Ruppia*, but even before flowering it may be distinguished by its leaves for the most part being not so membranous, and also less tumid, at the base. We have in the Linnæan Herbarium a specimen from Dr. Hope of that variety mentioned in Lightfoot (*Append.* 1091), which seems to differ from ours merely in the greater length of its spiral flower-stalk, possibly having grown in deeper or more fluctuating water. Its seeds are indeed spotted with red, which we have never observed in any other specimen.



Sagina procumbens — Procrember Pearlwort

Tetrandria Tetragynia

Genl Cal 4 leaved petals 4 Caps. Cells
Sp. Ch. Stems procumbent smooth. Petals
very short

Nothing can be more common than this
humble weed in sandy waste places high-
ted walks of gardens & the entrances of paved
Courts where its flowers are to be seen in
plenty from May to the end of autumn pro-
vided the place be not entirely burnt up by
the summer sun — Root perennial
small & fibrous. Stems several procumbent
smooth taking root at their joints & constant
by remaining with their leaves green through
the winter. Leaves opposite & even connate
linear connate beneath entire & smooth
in many parts tipped with a minute point,
flower stalks axillary solitary simple
smooth longer than the leaves each bearing
a small nodding flower — Cal of four
spreading elliptical blunt leaves — Petals
white roundish but $\frac{1}{2}$ the length of the Calyx

entire - caps ovate - seed small reddish
brown of a wedge like or somewhat kidney form



Lagena apulala — Annual small flower
 Pearlwort

Tetrandria Tetragynia

Genlth — Cal 4 leaves — Petals 4

Caps of 1 cell —

Spulth — Stems nearly upright hairy
 petals obsolete

This species of *Lagena* is scarcely less frequent than the preceding but generally found in more dry barren & open places flower in May & June — Stems nearly upright or if they spread they never take root — they differ from the last in being clothed with short scattered hairs — leaves also frequently hairy & always, we believe fringed at the base — flower stalks slender often but not always hairy — Petals white very minute & often altogether wanting frequently they are notched — seeds generally marked with a black line on their outward edge but this is not absolute

Lupinus 16

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Sagina erecta — Upright Pearlwort

Tetrandria Tetragynia

Genl. Cal. 4 leaved. Petals 4 Caps
of 1 cell

Spe. Ch. — Stem erect nearly single flow^r
Cal. leaves acute Petals undivided

This is a little Plant of considerable
neatness & elegance of structure which
grows frequently on dry gravelly pastures
& heaths among grass flowering in May
Mr Curtis has well observed that the
form of this Plant is that of a *Cerastium*
It is certainly not that of the other *Sagines*
which is formed with 4 entire lobes neither
does the habit well agree with the rest of the
genus — Professor Ehrenb. accordingly made
it a new one by the name of *Manchia*
perhaps not unjustly



"Gentiana" Del.

SAGINA ceraftoides.

Mouse-ear Pearl-wort.

TETRANDRIA Tetragynia.

GEN. CHAR. *Cal.* 4-leaved. *Petals* 4. *Caps.* with 4 cells and 4 valves.

SPEC. CHAR. Stem diffuse and dichotomous. Leaves spatulate or obovate, recurved. Foot-stalks of the ripe fruit reflexed.

SYN. *Sagina ceraftoides.* *Transf. of Linn. Soc. Vol. 2.* 343.

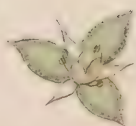
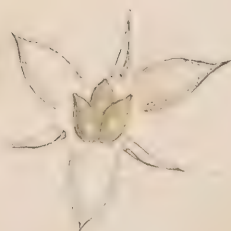
MR. James Dickson, who discovered this plant on the sandy shores and rocks about the Firth of Forth in Scotland, flowering in June and July, laid it before the Linnæan Society in October last; and from his specimens, both wild and cultivated, Dr. Smith has drawn up a full description, printed in the 2d volume of the Society's Transactions, just about to appear.

The habit of this plant is very like that of a *Ceraftium*, but the number of the parts of fructification make it a *Sagina*, to which genus it therefore must be referred, as the genera in this natural order are founded on differences of number alone. Mr. Dickson has observed the number of stamina to be constantly four in the wild plant: truth obliges us to declare we have in cultivated very luxuriant specimens sometimes found five, though in the same flower the petals, calyx-leaves and styles were but four; a sufficient indication that the fifth stamen was an unnatural luxuriance.

The root appears to be annual. Stems prostrate, dichotomous, hairy in the upper part. Leaves like those of a *Ceraftium*, hairy. Flowers solitary, on longish foot-stalks from each division of the stem, which foot-stalks, as the fruit ripens, become reflexed. Calyx of four leaves, two of which have a membranous margin. Petals shorter than the calyx, cloven, white. Stamina still shorter. Germen oval. Styles short. Capsule bursting with 8 blunt teeth. The flowers expand only in bright weather.

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TILLÆA muscosa.

Mossy Tillæa.

TETRANDRIA Tetragynia.

GEN. CHAR. *Calyx* three or four-cleft. *Petals* three or four. *Capsules* three or four, with many seeds.

SPEC. CHAR. Stems procumbent. Flowers three-cleft.

SYN. Tillæa muscosa. Linn. Sp. Pl. 186. Hudf. Fl. An. 132. With. Bot. Arr. 132. Rose's Elem. (Appendix) 448. t. 2. f. 2.

THE most dreary sands are not always unprofitable to a botanist, their loose and fluctuating surface being often arrested for a while, and destined to afford support to a tribe of plants whose constitution is fitted by the all-wise Creator to thrive best on the meagre nourishment they afford. Thus some of the vast African deserts are turned to account by means of Mesembryanthemums, Cotyledons, and other succulent vegetables, and we have here a production nearly allied to the latter, which flourishes on the driest sandy heaths, where few others would live, and at a season when Mosses and Lichens are dried up. Large tracts of the above description in Norfolk, as Drayton, Cawston and Mouthold heaths, as well as Brandon heath in Suffolk, are enlivened by its red colour from the end of May to September. Mr. Rose says this plant was first determined by the Rev. Mr. Bryant in 1766. Sir Thomas Cullum has found it near Bury, from whence our specimen was sent by W. Mathew, Esq.

The root is small, and annual. Stems after a while procumbent, round, becoming quadrangular when dry. Leaves opposite and strictly perfoliate, very fleshy, obtuse, punctated, concave above, convex on the under side, soon turning red as well as the stem. The flowers are one or two together in the bosoms of the leaves, nearly sessile, and sometimes accompanied with a pair of smaller leaves, denominated *bractææ* by Mr. Rose. Calyx of three still smaller leaves, distinguishable by their sharp points. Petals 3, ovate, acute, pellucid, less than the calyx. Stamina and styles still shorter. Germens 3, ovate, each producing two seeds.

Although this plant is always triandrous, yet as the three remaining species of Tillæa have 4 stamina, we cannot (with Dr. Withering) accommodate the English student so far as to remove the genus from the fourth class, where Linnæus has placed it, to the third.

July 17

July 18

July 19

July 20

July 21

July 22

July 23

July 24

July 25

July 26

July 27

July 28

July 29

July 30

Radical 18

50

Francis



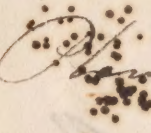
Radiola millyrana Allseed

Tetrandrium Tetragonia

Stem Cal in many segments
 Petals 4 Caps supr with 8 valves
 & 8 cells Seeds solitary

Spec etc

In sandy marshy spots such as the
 Teas Bush generally inhabits this little
 Annual may often be found yet it should
 seem to be far from a general Plant
 not being mentioned in any of our 3 prin-
 cipal local Floras - it flowers in July
 & Aug^r soon coming the property of the
 old names. *Millyrana* & *Allseed* by the
 multitude of its little capsules each containing
 8 seeds with which it is laden. Root
 small & fibrous - Stems are in or 2 high
 repeatedly forked & forming altogether a
 kind of Cynobus. Leaves opposite sessile
 or at least smooth. Flowers springing
 solitarily from the forks of the stem on
 little stalks the upper ones only being terminal

Cal 4 cleft its lobes deeply, 3 cleft Petals
white obovate - Stamens about equal to the
Cor - Styles short with capitate Stigmas per-
manent - each combining 2 of the valves of
the capsule - Seeds solitary compressed so-
lined - The remarkable structure of the
Cal. & the difference of the habit of the
 plant - nor to mention difference of mo-
suits justify the separation of this genus
from *Adinium* in which we follow Dille-
nius & the present Professor Gmelin

64 colored drawings

72 loose plates

